

Sian Ka'an: a natural paradise

Sian Ka'an, Mayan for "where the sky is born," is an extraordinary example of the diversity of habitats, flora and fauna to be found in Mexico. Located on the Yucatan Peninsula, on the central coast of the state of Quintana Roo, Sian Ka'an was designated a biosphere reserve by presidential decree on January 20, 1986.¹ It is part of the International Network of Biosphere Reserves and, in 1987, was included in the UNESCO list of World Heritage Sites.

Covering 528,147 hectares, it constitutes one of the largest protected areas in the country and is one of its richest because of the variety of environments therein. One-third of the entire reserve is tropical forest, another third is grazing land, savannahs and mangrove swamps, while the rest consists of marine habitats, including 110 kilometers of barrier reef, considered the second longest in the world.

Sian Ka'an is home to all of the mammal species known to the region. Among them are some in danger of extinction due to hunting, illegal trafficking or the destruction of their habitat. The creation of the reserve is the best alternative for preserving the jaguar, puma, ocelot, jaguarundi and margay, which need large tracts of

jungle to survive, as well as the spider and howler monkeys, tapir, manatee, brocket and white-tailed deer.

With more than 300,000 hectares of aquatic habitats and wetlands, it harbors one of the best preserved populations of savannah crocodiles (*C. moreleti*) and is one of the few regions where they coexist with river crocodiles (*C. acutus*). Hence, the reserve provides an excellent environment for studying basic crocodile population parameters. Species such as horseshoe crabs are to be found there, and hawksbill, loggerhead, leatherback marine turtles and white river turtles lay their eggs on its beaches.

Sian Ka'an provides a habitat for 336 of the 475 species of birds

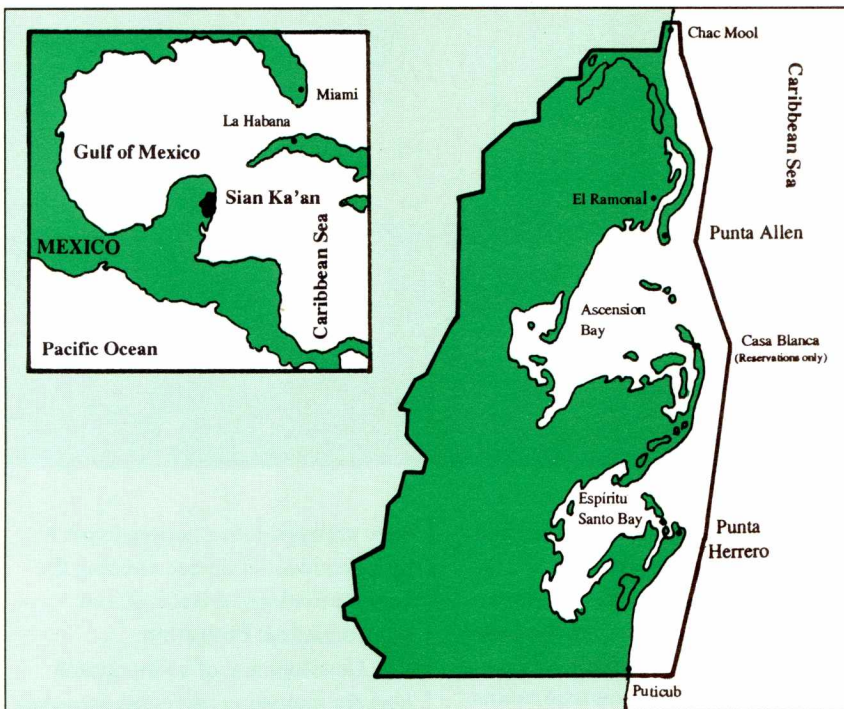
reported on the Yucatan Peninsula, including ocellated turkey, toucan, parrots, great curassow and trogon. As well as aquatic birds such as the white ibis, flamingo, roseate spoonbill, jabiru stork, wood stork and 15 species of heron.

In the *cenotes* (sinkholes) and *petens* (forest islands within savannahs or sinkholes), there are 15 ecosystems sheltering more than 1,500 different species of plants, 200 of which are still used by the Maya. Sian Ka'an also hosts approximately 30 unexplored archaeological sites, including places such as the town of Chunyaxche or Muyil, one of the most important pre-Hispanic Mayan communities.



Jaguar.

¹ The first two biosphere reserves in Mexico were officially created in Mapimí and Michililá in 1977. The Montes Azules region in Chiapas was also so designated in 1978. Sian Ka'an was the fourth reserve to be set aside and the most extensive. See Fundación Universo Veintiuno, *Fauna silvestre y áreas naturales protegidas* (1988), p. 79.



Sian Ka'an: biosphere reserve

Sian Ka'an is an example of one alternative to protect natural areas, developed during the seventies, in which protection means reconciling development with conservation.

The concept of biosphere reserve recognizes man's predominant role in the deterioration of the environment. However, it does not interpret conservation as prohibiting the use of natural resources, but rather as rational long-term use, in keeping with ecological norms.²

Sian Ka'an caught the world's attention because of its attempt to blend its ecological wealth with conservation programs attuned to

local problems and involving the native population. More than a thousand people live within the reserve and 99% of its land is federal property. The reserve is divided into three different zones:

1. **Core zone:** This comprises the best preserved areas, where human intervention is to be minimal. The

goal for this area is that it be used for scientific research and serve as a pattern for measuring environmental changes produced in zones used more intensely by the inhabitants of the reserve and neighboring areas.

2. **Buffer zone:** This was established to protect the core zone and allows for the development of productive activities and the rational use of natural resources not negatively affecting the ecosystem within its confines. Organic agriculture, fruit and vegetable crops, and the rational gathering of forest products, such as *chicle*, as well as developing ecological tourism, are some of the projects that have been presented or are under way. The object is to benefit the inhabitants of the reserve and make them co-participants and responsible for conservation.

3. **Cooperation zone:** This is a non-delimited and constantly expanding area surrounding the biosphere. The scientific, technological and practical know-how obtained inside the reserve will be applied to achieve a rational and continuous use of the natural



Espiritu Santo Bay.

² The biosphere reserve concept was developed under theegis of the UNESCO program "Man and the Biosphere." The original idea was to create a set of areas linked by a coordinated international system. The first biosphere reserves in the world were designated in 1976. By 1986, there were 243 in 65 countries. However, many industrialized countries have decreed already existing national parks and scientific reserves as biosphere reserves, without in-depth changes. *Ibid*, pp. 74-5.

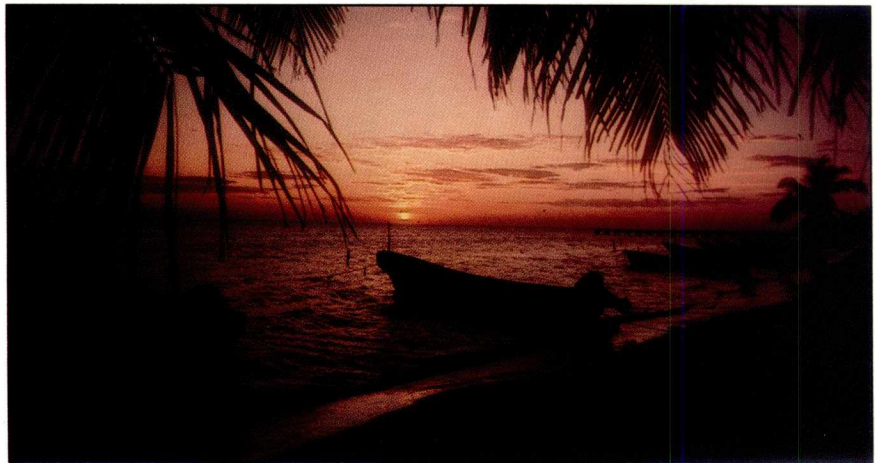
resources. The idea is to provide real benefits to the people settled in the surrounding area. Eventually, it could become a factor for regional development.

The reserve operates and subsists with the cooperation of the Ministry of Urban Development and Ecology (SEDUE), the government of the state of Quintana Roo, the municipalities of Cozumel and Felipe Carrillo Puerto, the Quintana Roo Research Center, as well as the Non-profit Friends of Sian Ka'an Association. The latter was founded in 1986 and operates with funding provided by both national and international individuals and groups concerned with conserving species.

As part of its efforts to support conservation projects, the Friends of Sian Ka'an Association organizes and encourages visits to the reserve. They include transportation from the city of Cancún, bilingual guides trained in biology, waterborne tours of the canals, lagoons and mangrove swamps, an opportunity to swim in a *cenote* which is home to more than thirty different species of fish, food service, even binoculars for bird watching. Such visits provide tourists visiting Quintana Roo



Arboreal anteater.



Sunset from Sian Ka'an.

with a unique opportunity to see and experience a natural area.

There are four tourist facilities inside the reserve including the Casa Cuzan, at the fishing village of Punta Allen. It offers solar-powered cabins for tourists, bird-watchers, scientists studying endangered species, and fly-fishermen after species such as threadbone fish, milkfish, starry butterflyfish and snook. A number of sites of great interest, within easy reach are Cayo Culebras, where several varieties of marine birds lay their eggs; Bahía de la Ascensión; and many other beautiful places within walking or boating distance.

Sian Ka'an: preserving the future

Mexico's diversity of climates, and enormous wealth of flora and fauna makes it third in bio-diversity worldwide. Efforts to study and protect long-term biotic resources are currently one of the government's policy priorities.³ In 1988, natural areas

³ Modern protection of natural areas in Mexico dates back to 1876, with the defense of the "Desierto de los Leones". During the following 58 years nine new areas were added. However, the government's attitude was a rather unfortunate copy of U.S. national parks addressing recreation and the isolation of protected areas. In the fifties the first efforts were made to find new means for designing and managing protected areas. *La Jornada Ecológica*, year 1, Num. 6, 19th Sept. 1991, p. 3.

were grouped into a national system by a presidential decree creating the Law on Ecological Balance and Environmental Protection.

Development of an integrated plan for managing protected areas has faced certain difficulties: among them, insufficient provisions for management, maintenance and enforcement; a lack of resources and qualified personnel; problems of land tenure; and lack of specific regulations to administer and manage them adequately.

Future problems may come to Sian Ka'an by virtue of its location on the southern border of the Tulum-Cancún tourist corridor. Keeping the original plan for the reserve intact and avoiding the effects of traditional tourist development is going to depend, to a great extent, on political will and the authorities' power of conciliation.

Fortunately, Sian Ka'an's core zone is still one of the best protected and least altered areas of Mexico. Its beauty and biological wealth clamor for the right to be a privileged place on our planet: a reserve for life, destined, above all, to the benefit of its inhabitants and humanity. **M**

Elsie L. Montiel

Assistant Editor.