

DISCLAIMER : Translated from the original Spanish for the Ramsar Bureau (June 2003), and provided to Wetlands International for use in the Ramsar Database. Translation not checked against original by Ramsar Bureau.

Information Sheet on Ramsar Wetlands

1. Date this sheet was completed/updated: August 9, 2001.
2. Country: Honduras
3. Name of wetland: Laguna de Bacalar
4. Geographical coordinates: 15°08' N, 85°01'W
5. Altitude: 0-8 meters above sea level.
6. Area: The total area corresponds to 7394 ha.
The lagoon's surface area extends to 311 ha., while vegetation coverage is 5325 ha. However, the latter's extent is yet to be verified with respect to the site limits.
7. Overview: Ecosystems present in this marine coastal area include broadleaf forests, mangrove forests, and swamps. Parts of the lagoon are dominated solely by mangroves, and characterized by species including red mangrove (*Rhizophora mangle*), white mangrove (*Laguncularia racemosa*), and button mangrove (*Conocarpus erectus*). These forests have undergone high levels of stress by inhabitants using them for firewood, most notably the button mangrove.
8. Wetland type:
Marine-coastal: E, I, J, K, M
The most dominant wetland type in the area is J (Coastal brackish/saline lagoons)
9. Ramsar criteria:
2, 3, 4, 6, 8
10. Map of site included? Yes
11. Name and address of the compiler of this form:
José Antonio Fuentes, Marlen Rivera, Rene Guevara, Francisco Alvarado, Roberto Guerra Cruz
Dirección General de Biodiversidad (DIBIO)
Edificio Principal: Despacho de Recursos Naturales y Ambiente,
100 Metros al Sur del Estadio Nacional
Tegucigalpa, Honduras
Tel: (504) 235-4895. Fax: (504)235-4154
www.serna.gob.hn
E mail: dibio@serna.gob.hn.

Francisco Cabañas Cadillo
Asociación de Desarrollo Socio-económico Indígena BAYAN
Apto Postal 320, La Ceiba, Atlántida, Honduras
Tel: (504) 442-2570. Fax (504) 443-2713
E-mail: bayan@tropicohn.com

12. Justification of the criteria selected under point 9, on previous page:

Criterion 2:

There are records of endangered species including the manatee (*Trichechus manatus*), mantled howler monkey (*Alouatta palliata*), Neotropical otter (*Lutra longicaudis*), birds such as yellow headed vulture (*Cathartes burrovianus*), Jabiru (*Jabiru mycteria*), chestnut-mandibled toucan (*Ramphastos swainsonii*), osprey (*Pandion haliaetus*), peregrine falcon (*Falco peregrinus*), and reptiles such as the boa (*Boa constrictor*) and the American crocodile (*Crocodylus acutus*). Endangered flora includes the yagua palm (*Roystonea dunlapiana*).

Criterion 3:

Young jabirus have been observed, while their main area for growth is between Belize, Guatemala and Mexico. The yagua palm is exclusively found in the area between Mexico and Nicaragua.

Criterion 4:

The site is used by the jabiru during its growth stages, as it was observed in before having reached maturity.

Criterion 6:

Stable populations of more than 7 jabirus have been observed at the site.

Criterion 8:

Records indicate the presence of species that exclusively "visit" this type of ecosystem. Amongst them, the horse-eyed jack (*Caranx latus*), blue runner (*Caranx crissos*), schoolmaster snapper (*Lutjanus apodus*), lane snapper (*Lutjanus synagris*) and Cubera snapper (*Lutjanus cyanopterus*), and the tarpon (*Megalops atlanticus*).

13. General location:

Laguna de Bacalar is located in the Gracias a Dios department, Juan Francisco Bulnes municipality. On a straight line, the community of Palacios is located approximately 240 km from the city of La Ceiba, a 45 minute flight.

14. Physical features:

Hydrology:

Several rivers drain into the Caribbean Sea. The Tinto river (Sico or Negro), whose main tributary is the Paulaya river, originates in the Fray Pedro mountain of the Asalta mountain range, in the department of Olancho. The upper river is referred as Sico, with an extension of 215 km. The Platano river originates in Punta Piedra mountain in the department of Colon, and flows through the Gracias a Dios department after running for

85 km. Part of the Sico river flows into Laguna de Bacalar, thus having a great influence on the lagoon's ecology.

Climate:

The climate corresponds to a tropical rainforest with a precipitation of more than 100 mm and no dry season. According to Holdridge lifezones classification the area corresponds to a very humid tropical forest (Bmh). Annual rainfall ranges between 1000-4000 mm. Average temperature is 26.7 °C, with a relative humidity over 84%. Highest elevation: 8 mts. above sea level.

Soils:

Soils, whether of recent or older origin are alluvial in the low lands and along rivers. Recent alluvial soils along rivers that flow out to the Caribbean are generally loose marls with a light texture and deep profile, with high humus content in forested areas. Soils in the Mosquitia are impoverished and slightly yellowish, highly acidic and lixiviated, which sustain a blanket of grasses and short Ciperaceae. Isolated patches of pine trees alternate with broadleaf forest.

15. Hydrological values:

The area is important for flood control and sediment capture, functions that stabilize the flow and reflux of water between the lagoon and the sea. The Sico (Tinto or Negro), a tributary of Laguna de Bacalar, is a river of medium volume, which branches in two when draining into the ocean. The highest volume and most important branch flows directly into a sand bar recently modified by humans. This modification broke through a small band of terrain, thus shortening the flow of the river by approximately one kilometer. This branch is influenced by the tides, although there is no more information on this phenomenon at this time. The Laguna de Bacalar Project (PROLAB) has carried out physical-chemical studies to determine the salinity range in the area. The second branch of the river is known as Tamagas or Palacios, a secondary stream of lesser flow which also empties into Laguna de Bacalar.

16. Ecological features: (main habitats and types of vegetation)

Broadleaf forest, mangrove forest, and flooded terrain. Large tracts of land surrounding the lagoon have over time become grasslands and agricultural lands containing bananas and plantains.

17. Noteworthy flora:

Representative trees in the area include the Yagua palm (*Roystonea dunlapiana*), Sangre (*Pterocarpus belizensis*), Malabar chestnut (*Pachira aquatica*), coral bean (*Erythrina fusca*), anchovy pear (*Grias cauliflora*), Chaperno (*Lonchocarpus rugosus*), bastard mahogany (*Carapa guianensis*), chewstick (*Symphonia globulifera*). Due to the high quality of their wood, these species have been extensively used for construction of houses and *cayucos* (canoes) and are considered as threatened. The swamp fern (*Achrosticum sp*) and wild cane are found in the underforest.

18. Outstanding fauna:

Laguna de Bacalar is within the zone of influence of the Natural Protected Area and Man

and Biosphere Reserve of Río Plátano, which is one of the most important sites in terms of biodiversity. Reptiles in the protected area constitute 36% of the total reported for Honduras, while approximately 60% of bird species, 70% of freshwater fish species, 27% of amphibians, and 68% of mammals are present.

19. Social and cultural values:

There are numerous social groups and organizations present, including an employer's association (*patronato*) a potable water board, religious groups, sports clubs (football, basketball), youth groups, and fishermen's organizations. Religious aspects play an important role in the region and have a great impact on the population's attitudes. Productive cultural practices include: artisanal fishing, agriculture, livestock raising, and commerce. Artisanal fishing is carried out using equipment fabricated by the local communities, where the most commonly used instruments include cords and nets such as the *cordel*, *atarraya*, *chinchorro*, and the *trasmayo*.

Agricultural production is strictly traditional in methods and products. Farmers carry out migratory agriculture using slash-and-burn methods and plant rice, corn, plantain, beans, and manioc.

Livestock raising is also carried out in a traditional manner, utilizing barbed wire fenced grassy pastures. Use and management practices are dictated by the dry and wet seasons, as ground stability is related to its moisture content.

Archaeological activities are currently starting in the area, with the construction of a museum of historical relics from British pirates and corsairs present in the region in the past.

20. Land tenure/ownership of:

There is no land registry determining ownership in the zone of influence for the Man and Biosphere Reserve of Río Plátano, as these lands belonged to the municipality of Brus Laguna before December 1996.

The National Agrarian Institute (INA) is currently revising the land property titles given to communities in the urban areas in order to cover all functional habitats.

21. Current land use:

In most of the areas surrounding Laguna Bacalar the current land use is related to different agricultural production activities, including rice, bananas, manioc, *malanga*, sweet potato, livestock raising, and wood extraction.

There has been an increment in settlements, over-grazing and intensive livestock raising; these are some of the processes that have accelerated land degradation.

22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:

Extensive livestock raising, deforestation of tropical forests and mangroves, the advance of the agricultural frontier and immigration, soil contamination, over-fishing and illegal fishing, and physical and biological contamination of surface waters.

23. Conservation measures taken:

COHDEFOR has given training in wildlife-pastoral systems. Additionally, regulations on fishing practices, establishment of a close season for fishing, and studies on the dynamics of fisheries in Laguna de Bacalar have been carried out through the Laguna de Bacalar Project by PROLAB. These studies have incorporated sustainable use techniques while giving direct benefits to the local inhabitants and for future generations.

24. Conservation measures proposed but not yet implemented:

Activities for the protection of the lagoon include the formation of ecological groups for the protection of micro-basins, creation of incineration sites for domestic refuse, and proposals for the creation of a protected area by community groups including fishermen and stockbreeder groups with the support from government organizations such as COHDEFOR and DIGIPESCA. The corresponding decisions are to be taken by the council of Juan Francisco Bulnes municipality.

25. Current scientific research and facilities:

- Sampling during artisanal fisheries.
- Sampling of fish catches.
- Sampling of plancton, crabs, and shrimp.
- Study and characterization of forest ranges.
- Monitoring of phenology.
- Limnology laboratory.

These activities have been carried out by PROLAB-BAYAN for the period 200-2003. Government and non-government organizations such as BAYAN, COHDEFOR, and others have installations in the area and surroundings.

26. Current conservation education:

The community of upper Palacio has a school offering a Bachelor of Ecology course. Additionally, BAYAN coordinates a programme of formal and non-formal environmental education with the financial support from the Ministry of Education.

27. Current recreation and tourism:

The area is not included in any tourism programs although it has great potential due to its natural and scenic beauty.

28. Jurisdiction:

The wetland belongs to the Juan Francisco Bulnes municipality, Gracias a Dios department, and under the administrative jurisdiction of the state, through various institutions including the Secretaría de Recursos Naturales y Ambiente (SERNA), the Secretaría de Agricultura y Ganadería (SAG/DIGEPESCA) and COHDEFOR.

29. Management authority:

Dirección General de Biodiversidad / Secretaría de Recursos Naturales y Ambiente
(DIBIO/SERNA)

Edificio Principal, Despacho de Recursos Naturales y Ambiente,
100 metros al sur del Estadio Nacional

Tegucigalpa, HONDURAS

Tel.: (504) 235-4895

dibio@serna.gob.hn

as focal point and administrative authority for the Ramsar Convention, coordinating with:

AFE/COHDEFOR - Administración Forestal del Estado/Corporación Hondureña de

Desarrollo Forestal

Col. El Carrizal No.1

Tegucigalpa, M.D.C.Honduras.

Tel: (504) 223-3248

30. References: