

## COSTA RICA

Area: 50,899 km<sup>2</sup>  
Population: 2,270,000.

We have received no introduction to this inventory from our correspondents in Costa Rica.

### WETLANDS

Site descriptions based on data sheets provided by Julio E. Sanchez.

#### Lagunas del Rio Cañas (1)

**Location:** 10°20'N, 85°37'W; 6 km NNW of Santa Cruz, Guanacaste Province.

**Area:** 1,000 ha.

**Altitude:** 60m.

**Province and type:** 8.16.4; 12.

**Site description:** A group of permanent freshwater lakes and marshes, up to 1m deep, formed by the flooding of the Rio Cañas and local rainfall, and greatly reduced in size during the dry season.

**Principal vegetation:** Floating beds of *Nymphaea ampla*, *N. lutea*, *Eichhornia crassipes* and *Pistia stratiotes*; marshes with *Typha domingensis*. In a region dry tropical forest.

**Land tenure:** Privately owned.

**Protection:** None.

**Land use:** Subsistence fishing, some sport fishing, and extensive cattle ranching.

**Waterfowl:** A very important area for breeding, passage and wintering waterfowl. Breeding birds include 50 pairs of *Podilymbus podiceps*, 25 pairs of *Podiceps dominicus*, 10 pairs of *Ixobrychus exilis*, 15 pairs of *Tigrisoma lineatum*, 30 pairs of *Butorides virescens*, 200 pairs of *Dendrocygna autumnalis*, 40 pairs of *Aramus guarauna*, 25 pairs of *Rallus maculatus*, 40 pairs of *Porphyryla martinica* and 300 pairs of *Jacana spinosa*. Average counts of non-breeding visitors include 500 *Bubulcus ibis*, 100 *Egretta thula*, 500 *E. alba*, 250 *Mycteria americana* and 30 *Himantopus himantopus*. Average counts of Nearctic migrants include 12 *Ardea herodias*, 40 *Anas americana*, 300 *Anas discors*, 50 *Tringa flavipes*, 100 *Tringa solitaria*, 45 *Actitis macularia*, 160 *Calidris minutilla* and 140 *C. melanotos*.

**Other fauna:** *Pandion haliaetus* is a common winter visitor, and *Caiman crocodilus* occurs.

**Threats:** The area is being drained for rice cultivation, and there is some pollution. Hunting is uncontrolled.

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 3a.

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#### Wetlands in Palo Verde National Park and Wildlife Refuge (2)

**Location:** 10°20'N, 85°20'W; 20 km south of Bagaces, Guanacaste Province.

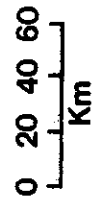
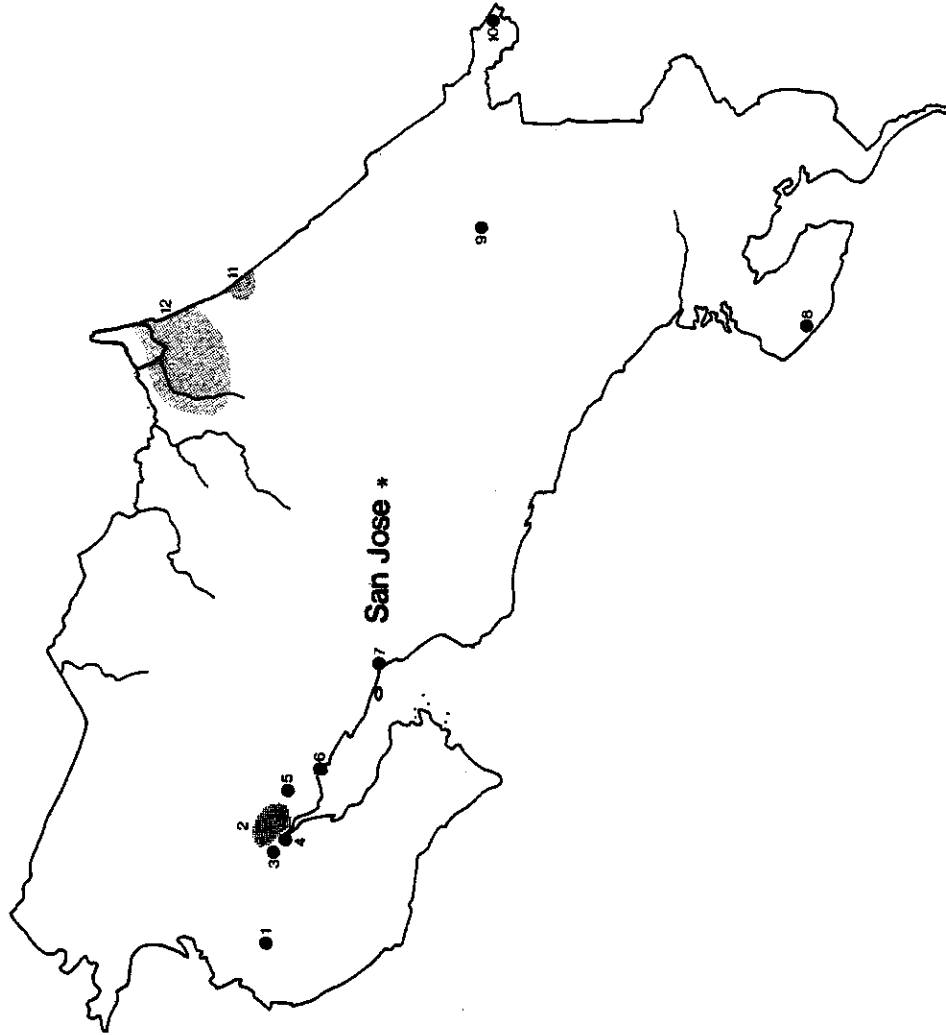
**Area:** c.6,000 ha.

**Altitude:** 2-10m.

**Province and type:** 8.16.4; 02, 08, 09, 12, 16 & 18.

**Site description:** A complex of shallow freshwater lakes, up to 1.5m deep, marshes and swamp forest in the floodplain of the Rio Tempisque, with some mangrove swamps along the river. During the rainy season, flooding from the Rio Tempisque forms a single large shallow lake. Large areas dry out by the end of the dry season (March and April), and the permanent lakes become brackish. The principal lakes are Laguna Palo Verde, a seasonal lake of 1,200 ha in the Wildlife Refuge, and Laguna Nicaragua, a seasonal lake of 4,100 ha in the National Park. There are two mangrove covered islands, Isla San Pablo (15 ha) and Isla Pajaros (2 ha), in the estuarine portion of the river subject to tidal influence.

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**Principal vegetation:** Abundant aquatic vegetation including floating beds of *Nymphaea ampla*, *N. lutea*, *Nymphoides* sp and *Eichhornia crassipes*; marshes of *Typha domingensis*, *Eleocharis mutata*, *Paspalum paludivagum* and *Parkinsonia aculeata*; swamp forest; and mangrove swamps with *Avicennia germinans* and *Rhizophora mangle*. In the dry tropical forest zone.

**Land tenure:** State owned.

**Protection:** Included within the Palo Verde National Park (9,466 ha) established in 1980, and the contiguous Palo Verde (Dr Rafael Lucas Rodriguez Caballero) National Wildlife Refuge (7,524 ha) established in 1979.

**Land use:** Scientific research and some nature tourism. Access is restricted to certain areas. There is some illegal grazing of domestic livestock.

**Waterfowl:** An extremely important area for breeding, passage and wintering waterfowl; over sixty species have been recorded. There are important breeding colonies of Ciconiiformes on Isla Pajaros and Isla San Pablo; the average numbers of nesting pairs during the years 1981 to 1983 were as follows: *Nycticorax nycticorax* 250; *Nyctanassa violacea* 100; *Cochlearius cochlearius* 210; *Bubulcus ibis* 17,500; *Egretta caerulea* 50; *E. thula* 250; *E. alba* 2,650; *Mycteria americana* 3,000; *Eudocimus albus* 1,000; *Plegadis falcinellus* 12; and *Ajaia ajaja* 1,000. There were also some 90 pairs of *Anhinga anhinga*. Common breeding species elsewhere in the wetlands include *Podilymbus podiceps*, *Podiceps dominicus*, *Ixobrychus exilis*, *Tigrisoma mexicanum*, *Butorides virescens*, *Dendrocygna bicolor*, *D. autumnalis* (several hundred pairs), *Cairina moschata*, *Aramus guarauna*, *Rallus maculatus*, *Porphyryla martinica* and *Jacana spinosa*. The area is the main locality for *Jabiru mycteria* in Costa Rica, with eight breeding pairs in recent years. *Oxyura dominica* is present in small numbers and probably breeds.

The wetlands are also important as feeding areas for birds breeding elsewhere in the region, particularly during the dry season (February to March). Peak counts have included up to 1,000 *Ajaia ajaja*, 20,000 *Dendrocygna autumnalis* and 400 *Cairina moschata*. Common passage and wintering birds from the Nearctic include *Ardea herodias*, *Anas americana*, *A. acuta*, *A. discors* (up to 20,000), *A. clypeata*, *Porzana carolina*, *Fulica americana* and many shorebirds, particularly *Catoptrophorus semipalmatus*, *Tringa solitaria*, *Calidris mauri* and *C. minutilla*.

**Other fauna:** There is a small breeding population of *Rostrhamus sociabilis*, and *Pandion haliaetus* is a common winter visitor. Reptiles include *Crocodylus acutus*, *Caiman crocodilus* and *Iguana iguana*.

**Threats:** The wetlands are under serious threat from a variety of sources. Eutrophication is occurring at a rapid rate, and areas of open water and *Nymphaea* spp are being replaced by a dense growth of *Typha domingensis*, Cyperaceae and Gramineae. Pesticide run-off from nearby rice, cotton and sugar cultivation is causing a serious toxicity problem in the river. In 1982 and 1983, 40% of the trees on Isla Pajaros died, and many nesting sites were destroyed. The largest irrigation project in Costa Rica is soon to be initiated nearby, and there is a proposal to exclude Laguna Nicaragua from the National Park so that it can be drained for the cultivation of sugar cane.

**Research and conservation:** A considerable amount of faunal and floral research has been conducted in the Wildlife Refuge. A detailed management plan has been prepared for the Refuge, and some management has been implemented, including the cutting, burning and clearing of excess vegetation, construction of artificial impoundments, and erection of nest-boxes for *Dendrocygna autumnalis*. However, it is clear that unless better control is gained of the quantity and quality of the water entering the wetlands, much of the importance of this unique area will be lost.

**References:** Stiles & Smith (1977); Leber (1980); IUCN (1982); Vaughan *et al* (1982).

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 123.

#### Laguna Mata Redonda (3)

**Location:** 10°19'N, 85°25'W; 20 km north of Nicoya, Guanacaste Province.

**Area:** 900 ha.

**Altitude:** 30m.

**Province and type:** 8.16.4; 12.

Costa Rica

**Site description:** A seasonal freshwater lake, up to 2m deep, on the south bank of the Rio Tempisque, surrounded by pastureland. The lake is at its most extensive between August and October, and dries out completely in March and April.

**Principal vegetation:** Floating *Eichhornia crassipes*, *Nymphaea ampla*, *N. lutea*, *Nymphoidessp* and *Pontederia* sp; emergent *Eleocharis* spp, *Thalia geniculata* and *Ipomoea carnea*.

**Land tenure:** State owned.

**Protection:** None.

**Land use:** Cattle ranching and hunting.

**Waterfowl:** A very important feeding area for waterfowl during the early part of the dry season (January to mid March), with almost the same species as the nearby Palo Verde lakes. Concentrations at this time have included up to 5,000 *Mycteria americana*, 1,000 *Ajaia ajaja*, 20,000 *Dendrocygna autumnalis*, 20,000 *Anas discors* and 500 *Aramus guarauna*. Some 75 pairs of the latter also breed. The lake is one of the main feeding areas of the *Jabiru mycteria* breeding at the Palo Verde lakes.

**Other fauna:** About 10 pairs of *Rostrhamus sociabilis* breed. The freshwater turtle *Kinosternon scorpioides* is abundant, but *Caiman crocodilus* now occurs in much reduced numbers as a result of excessive persecution. There is an endemic bivalve *Nephronais tempisquensis* in the area.

**Threats:** The main threats are contamination with pesticides from nearby areas of rice cultivation; the future construction by the government of dykes and canals to regulate water levels; and uncontrolled hunting of ducks.

**Research and conservation:** The lake clearly merits protection as an important component of the Palo Verde wetland complex.

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 1a, 1b, 2a & 2c.

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Laguna Zonzapote and Corral de Piedra (4)

**Location:** 10°15'N, 85°18'W; 20 km northeast of Nicoya, Guanacaste Province.

**Area:** 2,800 ha.

**Altitude:** 2m.

**Province and type:** 8.16.4; 12.

**Site description:** A seasonal fresh to brackish lake on the south bank of the Rio Tempisque, south of the Palo Verde lakes. The lake becomes brackish as the water level falls, and is completely dry from February to April.

**Principal vegetation:** Floating *Eichhornia crassipes*, *Nymphaea ampla* and *N. lutea*; emergent *Eleocharis mutata*, *Thalia geniculata* and *Typha domingensis*.

**Land tenure:** Privately owned.

**Protection:** None.

**Land use:** Cattle ranching, hunting, and some fishing and harvesting of shrimps.

**Waterfowl:** An important breeding area for resident waterfowl, and a very important wintering area for a variety of migrants. Breeding species include *Podilymbus podiceps* (up to 100 pairs), *Podiceps dominicus*, *Tigrisoma mexicanum*, *Nycticorax nycticorax*, *Cochlearius cochlearius* (40 pairs), *Dendrocygna bicolor*, *D. autumnalis*, *Aramus guarauna* (30 pairs), *Porphyryla martinica*, *Jacana spinosa*, *Charadrius wilsonius* and *Himantopus himantopus* (15 pairs). Concentrations of non-breeding birds and Nearctic migrants have included up to 2,000 *Egretta thula*, 6,000 *Mycteria americana*, 2,000 *Eudocimus albus*, 75 *Plegadis falcinellus*, 1,000 *Ajaia ajaja*, 400 *Anas americana*, 4,000 *A. discors*, 100 *A. clypeata* and 5,000 shorebirds.

**Other fauna:** Eight pairs of *Rostrhamus sociabilis* breed, and up to 6 *Pandion haliaetus* have been observed in winter. *Crocodylus acutus* and *Caiman crocodilus* occur.

**Threats:** The main threats are contamination with pesticides, drainage for the cultivation of rice, and uncontrolled hunting.

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 1b & 3a.

## Estero Madrigal (5)

**Location:** 10°17'N, 85°09'W; 30 km SSE of Bagaces, Guanacaste Province.

**Area:** 300 ha.

**Altitude:** 10m.

**Province and type:** 8.16.4; 09, 11 & 18.

**Site description:** A wide stretch of slow-flowing river with riverine marshes and swamp forest, draining out through a narrow channel, and constituting one of the few permanently flooded wetlands in the Rio Tempisque valley. The river is up to 6m deep, and water levels remain fairly constant.

**Principal vegetation:** Floating beds of *Eichhornia crassipes* and *Pistia stratiotes*; marshes with *Typha domingensis*, *Thalia geniculata* and *Mimosa* sp; swamp forest with *Anacardium excelsum* predominating. Surrounded by pastureland and cultivated areas with rice and sugar cane.

**Land tenure:** Privately owned.

**Protection:** No legal habitat protection, but one of the landowners protects his property.

**Land use:** Hunting; cattle ranching and agriculture in surrounding areas.

**Waterfowl:** An important breeding area for waterfowl, and a very important refuge at the end of the dry season, when most other wetlands in the area have dried out. Breeding species include *Phalacrocorax olivaceus* (1,000 pairs in February 1985), *Tigrisoma mexicanum* (30 pairs), *Cochlearius cochlearius* (15 pairs), *Bubulcus ibis* (500 pairs), *Egretta alba* (100 pairs), *Mycteria americana* (100 pairs), *Jabiru mycteria* (1 pair in 1983), *Dendrocygna autumnalis* (250 pairs), *Cairina moschata* (5-10 pairs) and *Aramus guarana* (20 pairs). These and other species breeding in the Rio Tempisque valley concentrate in large numbers in this area during the dry season, along with many Nearctic Anatidae and shorebirds.

**Other fauna:** *Rostrhamus sociabilis* and *Busarellus nigricollis* are common in the dry season, and *Caiman crocodilus* occurs.

**Threats:** The main threats are contamination with pesticides, drainage for the cultivation of rice and sugar cane, and uncontrolled hunting.

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 2c & 3a.

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 Estero Piedras (6)

**Location:** 10°08'N, 85°03'W; 30 km south of Cañas, Guanacaste Province.

**Area:** Several hundred ha.

**Altitude:** 0-1m.

**Province and type:** 8.16.4; 07 & 08.

**Site description:** A complex of shallow brackish coastal marshes and mangrove swamps, partly seasonal and partly tidal, and an area of salt pans (Salina Bonilla).

**Principal vegetation:** Mangrove swamps; and brackish marshes with Cyperaceae, principally *Fimbristylis* sp.

**Land tenure:** A mixture of state and private ownership.

**Protection:** No special protection, but there is a general law which prohibits the cutting of mangroves.

**Land use:** Salt extraction and a little illegal cutting of mangroves.

**Waterfowl:** An important feeding area for birds breeding on Isla Pajaros to the northwest, and a very important passage and wintering area for migratory shorebirds and Laridae. Feeding concentrations have included up to 500 *Egretta alba*, 800 *Mycteria americana*, 600 *Eudocimus albus*, 300 *Ajaia ajaja* and 300 *Himantopus himantopus*. *Charadrius wilsonius* breeds. Common passage and wintering birds include *Egretta caerulea*, *E. tricolor*, *Ardea herodias*, many shorebirds (notably *Pluvialis squatarola*, *Charadrius semipalmatus*, *Numenius phaeopus*, *Catoptrophorus semipalmatus*, *Actitis macularia*, *Limnodromus griseus*, *Calidris* spp and *Micropalama himantopus*), *Larus atricilla*, *Sterna hirundo* and *S. albifrons*.

**Other fauna:** *Pandion haliaetus* is a winter visitor.

**Threats:** Road construction through the wetland has affected the hydrology of the marshes; large areas of mangroves were destroyed in the construction of 405 ha of shrimp ponds at Chomes; the illegal cutting of mangroves continues; and there is uncontrolled hunting.

Costa Rica

**Research and conservation:** Some shorebirds have been banded at Salina Bonilla.

**References:** Stiles & Smith (1977).

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 3a.

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Estero Mata de Limon (7)

**Location:** 9°55'N, 84°42'W; near Barranca, Puntarenas Province.

**Area:** 200 ha.

**Altitude:** 0m.

**Province and type:** 8.16.4; 07 & 08.

**Site description:** A complex of brackish coastal lagoons, up to 2m deep, brackish marshes and mangrove swamps, partly seasonal and partly tidal.

**Principal vegetation:** Mangrove swamps, and brackish marshes.

**Land tenure:** A mixture of state and private ownership.

**Protection:** No special protection, but there is a general law which prohibits the cutting of mangroves.

**Land use:** Recreation and salt extraction.

**Waterfowl:** A feeding area for *Phalacrocorax olivaceus* and various Ciconiiformes, and an important passage and wintering area for migratory shorebirds and Laridae, with almost the same species as Estero Piedras (site 6).

**Other fauna:** No information.

**Threats:** The construction of dykes has affected the hydrology of the wetland; mangroves have been destroyed and replaced with salt pans; and there is a potential threat of pollution from a nearby harbour, currently under construction.

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 3a.

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Laguna Corcovado (8)

**Location:** 8°33'N, 83°36'W; 40 km west of Puerto Jimenez, Puntarenas Province.

**Area:** 1,200 ha.

**Altitude:** 10m.

**Province and type:** 8.16.4; 12 & 18.

**Site description:** A permanent freshwater lake, up to 4m deep, surrounded by marshes, palm swamps and swamp forest, and with a river channel passing through it. The water level fluctuates considerably, and extensive flooding occurs during the rainy season.

**Principal vegetation:** Extensive marshes with Gramineae, mainly *Pennisetum* sp, which covers the greater part of the lake; large tracts of the palm *Raphia taedigera*; and swamp forest with *Pterocarpus officinalis*, *Inga vera*, *Euterpe* sp and *Cecropia* spp. In a region of very humid tropical forest.

**Land tenure:** State owned.

**Protection:** Included within the Corcovado National Park (36,000 ha) established in 1976.

**Land use:** None; much of the area is very difficult of access.

**Waterfowl:** A very rich area for both breeding and wintering waterfowl; fifty species have been recorded, but no census data are available. Resident species include *Podiceps dominicus*, *Anhinga anhinga*, *Ixobrychus exilis*, *Nycticorax nycticorax*, *Nyctanassa violacea*, *Cochlearius cochlearius*, *Agamia agami*, *Mycteria americana*, *Eudocimus albus*, *Ajaia ajaja*, *Cairina moschata*, *Aramus guaranauna*, *Amaurolimnas concolor*, *Aramides cajanea*, *Porphyryula martinica* and *Jacana spinosa*. Passage and wintering species include *Ardea herodias*, *Anas discors* and many Nearctic shorebirds.

**Other fauna:** *Pandion haliaetus* is a winter visitor, and *Caiman crocodilus* occurs.

**Threats:** None known.

**Research and conservation:** A considerable amount of research is being conducted on the fauna and flora of the National Park, and a Master Plan has been produced.

References: Vaughan (1981); IUCN (1982).  
Source: Julio E. Sanchez.  
Criteria for inclusion: 3a.

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Lago Dabagri (9)

Location: 9°37'N, 83°16'W; 90 km ESE of San Jose, Limon Province.  
Area: 25 ha.  
Altitude: 1,000m.  
Province and type: 8.16.4; 12 & 18.  
Site description: A permanent freshwater lake, c.5m deep, surrounded by marshes, wet grassland and flooded forest; in the highlands, on the Caribbean slope of the Cordillera de Talamanca.  
Principal vegetation: Cyperaceae swamps; and flooded forest.  
Land tenure: State owned.  
Protection: Included within La Amistad National Park (192,000 ha) established in 1979.  
Land use: None; there are several Indian Reservations near the lake.  
Waterfowl: Very poorly known. Waterfowl observed during a single visit in 1981 included *Podiceps dominicus*, *Butorides virescens*, *Porphyrula martinica* and *Jacana spinosa*.  
Other fauna: No information.  
Threats: None known.  
Source: Julio E. Sanchez.  
Criteria for inclusion: 3a.

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Laguna Gandoca (10)

Location: 9°35'N, 82°36'W; on the Caribbean coast near the Panamanian border, Limon Province.  
Area: 780 ha.  
Altitude: 0-2m.  
Province and type: 8.16.4; 05, 07 & 18.  
Site description: A brackish coastal lagoon of 30 ha, up to 6m deep, subject to tidal influence; two nearby marshes; adjacent flooded forest; and sandy beaches.  
Principal vegetation: Flooded forest and extensive tracts of the palm *Schelia rostrata*. In a region of humid tropical forest.  
Land tenure: Mainly state owned, with some private ownership.  
Protection: None.  
Land use: Fishing and hunting; cultivation of cocoa and some cattle ranching nearby.  
Waterfowl: Very poorly known. *Pelecanus occidentalis* is common, and is reported to breed on a small island nearby (Punta Mona). A variety of Ardeidae, Nearctic shorebirds and Laridae were observed during two brief visits to the lagoon, but the marsh areas have never been investigated.  
Other fauna: The manatee *Trichechus manatus* occurs in the area; and the adjacent humid tropical forests have an extremely diverse fauna.  
Threats: The native forests are being destroyed for the cultivation of an African palm, and this is likely to affect the wetland ecosystem.  
Research and conservation: The area is difficult of access, and remains very poorly known. The Asociacion de Desarrollo has presented a proposal to the Government for the establishment of a protected area, but no decision has as yet been taken.  
Source: Julio E. Sanchez.  
Criteria for inclusion: 2a & 3a.

Wetlands in Tortuguero National Park (11)

**Location:** 10°25'N, 83°27'W; 30 km NNE of Siquirres, Limon Province.

**Area:** 15,000 ha.

**Altitude:** 0-5m.

**Province and type:** 8.16.4; 05, 08, 13, 16 & 18.

**Site description:** A vast complex of palm swamps and fresh to brackish marshes crossed by many narrow channels; a large area of seasonally flooded grassy marshes; and some mangrove swamps behind a long sea beach.

**Principal vegetation:** Floating beds of *Eichhornia crassipes*; marshes with Gramineae and Cyperaceae; palm swamps with *Raphia taedigera*; mangrove swamps with *Rhizophora mangle*; and beach vegetation with *Coccoloba uvifera*. In a region of humid tropical forest, with very high rainfall (5,000 mm) and no marked dry season.

**Land tenure:** State owned.

**Protection:** Within the Tortuguero National Park (18,947 ha) established in 1970.

**Land use:** None.

**Waterfowl:** A very important area for migratory Ardeidae and shorebirds. Shorebirds recorded in large numbers along the coast include *Pluvialis squatarola*, *Charadrius semipalmatus*, *C. collaris*, *Numenius phaeopus*, *Tringa melanoleuca*, *T. flavipes*, *T. solitaria*, *Catoptrophorus semipalmatus*, *Actitis macularia*, *Arenaria interpres*, *Limnodromus griseus*, *Calidris alba*, *C. pusilla*, *C. mauri* and *C. minutilla*. *Mesembrinibis cayennensis* is known to occur in the swamps.

**Other fauna:** The manatee *Trichechus manatus* is still thought to occur; and the sea turtles *Chelonia mydas*, *Eretmochelys imbricata* and *Dermochelys coriacea* nest along the beach.

**Threats:** The hunting of turtles and collection of their eggs are still a problem in the Park.

**Research and conservation:** General faunal and floral surveys have been conducted in the Park; a considerable amount of research has been carried out on the sea turtles; and a preliminary management plan has been prepared.

**References:** IUCN (1982).

**Source:** Julio E. Sanchez.

**Criteria for inclusion:** 2b & 3a.

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Barra del Colorado (12)

**Location:** 10°32'-10°45'N, 83°32'-83°53'W; on the Caribbean coast near the Nicaraguan border, Limon and Heredia Provinces.

**Area:** 53,550 ha.

**Altitude:** 0-1m.

**Province and type:** 8.16.4; 05, 07, 09 & 12.

**Site description:** A vast complex of interconnected freshwater lakes and marshes, brackish coastal lagoons and marshes, and palm swamps, behind a long sandy beach. The lagoons near the coast are subject to tidal influence.

**Principal vegetation:** Freshwater lakes with floating beds of *Eichhornia crassipes*; marshes with Gramineae and Cyperaceae; and palm swamps with *Astrocaryum olatum* and *Raphia taedigera*. In a region of humid tropical forest.

**Land tenure:** Privately owned.

**Protection:** None.

**Land use:** Commercial fishing; cattle ranching and agriculture nearby.

**Waterfowl:** A wide variety of breeding, passage and wintering waterfowl have been recorded, but no census data are available. Resident species include *Pelecanus occidentalis*, *Anhinga anhinga*, *Nycticorax nycticorax*, *Nyctanassa violacea*, *Mesembrinibis cayennensis*, *Aramides cajanea*, *Laterallus albigularis* and *Porphyryla martinica*. Migrants and wintering birds include *Ardea herodias*, *Anas discors*, *Aythya affinis*, *Fulica americana*, many Nearctic shorebirds, *Larus atricilla*, *Chlidonias nigra* and *Sterna hirundo*.

**Other fauna:** The manatee *Trichechus manatus* still occurs in the area. Fishes include *Lepisosteus tropicus*.

**Threats:** A road is being constructed through the region, and this will inevitably lead to accelerated exploitation of the natural ecosystems.

**Research and conservation:** A proposal has been made for the establishment of a National

**Wildlife Refuge (Refugio Nacional de Fauna Silvestre) incorporating the wetland.**

**Source: Julio E. Sanchez.**

**Criteria for inclusion: 2a, 2b & 3a.**