

## EL SALVADOR

### INTRODUCTION

based on information provided by Carolina Calderon of the Embassy of El Salvador in London.

El Salvador, the smallest country in Central America, has an area of 21,200 km<sup>2</sup>, and a population of almost five million. It is situated on the Pacific watershed and has a coastline of approximately 260 km. The terrain is very mountainous, and the country is crossed by a chain of volcanoes (e.g. Santa Ana, San Vicente, San Miguel and San Salvador), some of which are still active. These mountains separate the Pacific coastal plain in the south from the plain of the Rio Lempa in the north. The Rio Lempa is the main river in El Salvador; it cuts through the mountain chain and eventually flows into the Golfo de Fonseca.

The rainy season extends from May until October, and temperatures are uniformly high.

### Institutional Base for Wetland Conservation and Research

The principal bodies concerned with environmental conservation and research are as follows:

*Direccion General de Recursos Naturales Renovables*, the government agency responsible for the conservation of nature and research.

*Instituto Salvadoreño de Turismo (El Salvador Tourist Institute)*, which cooperates in projects concerned with nature protection.

*Parque Zoologico Nacional*, dedicated to environmental education and research.

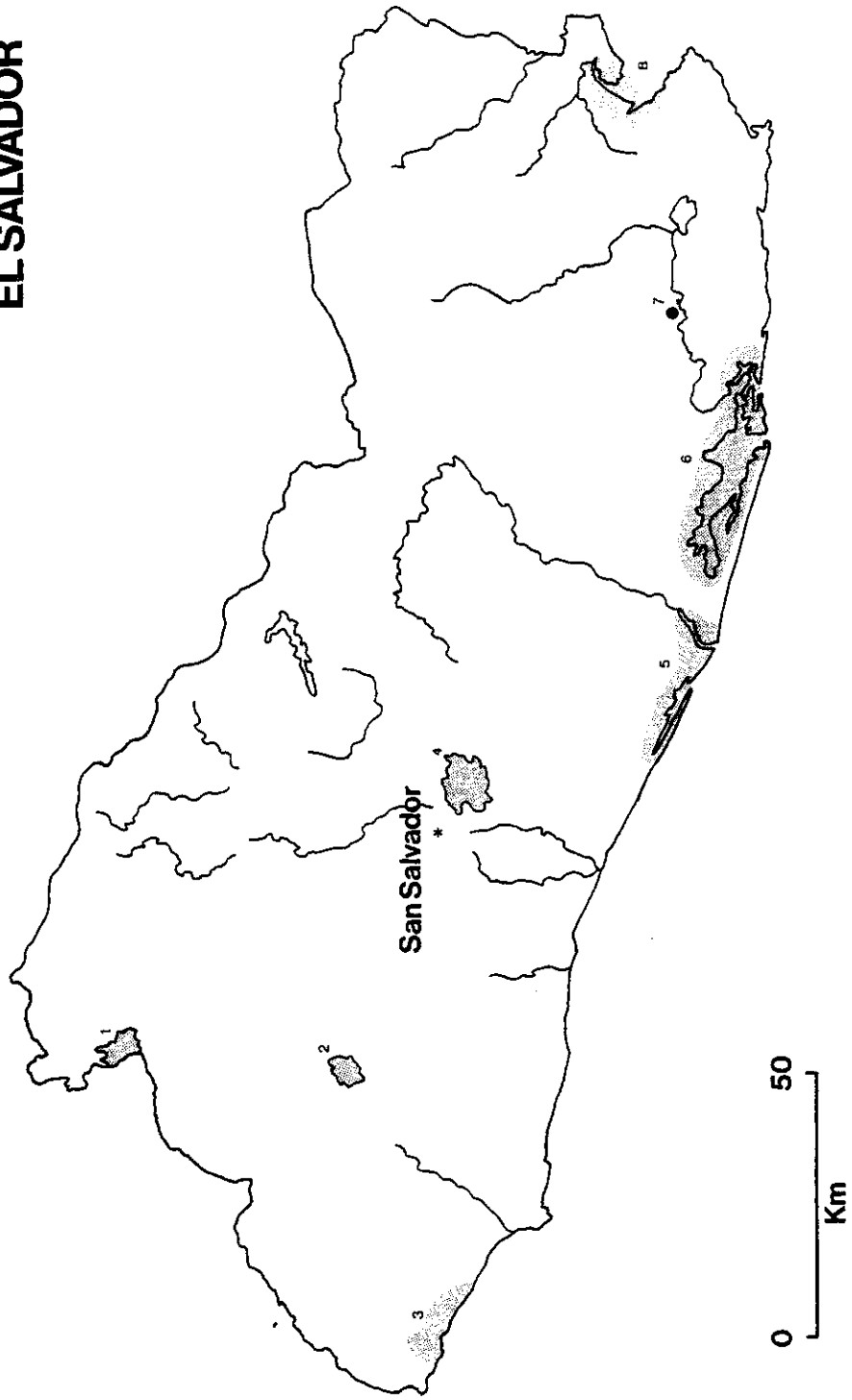
*Museo de Historia Natural*, dedicated to research and education.

### Progress in Wetland Conservation and Research

No National Parks or equivalent reserves have as yet been officially protected by law in El Salvador, but some zones are managed as such, for example the Parque Nacional Cerro Verde (500 ha), the Parque Nacional Walter Thilo Deininger (732 ha), the Refugio Faunistico Laguna Jocotal (1,000 ha), Barra de Santiago, and Bosque El Imposible.

Research currently in progress includes a study of the reproductive biology of *Dendrocygna autumnalis* at Laguna Jocotal by Jose A. Gomez Ventura, and research on sea turtles at Barra de Santiago by Manuel F. Benitez Arias.

**EL SALVADOR**



**WETLANDS**

No data sheets were received from El Salvador. The site descriptions are based on personal communication with Manuel F. Benitez Arias and Jose A. Gomez Ventura, and the meagre literature.

**Laguna de Guija (1)**

**Location:** 14°15'N, 88°32'W; 30 km north of Santa Ana, on the Guatemalan border.

**Area:** 4,300 ha, of which 3,000 ha are in El Salvador.

**Altitude:** 427m.

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

**Site description:** A large freshwater lake with several small islands and fringing marshes; in the mountains of northwestern El Salvador, on the Guatemalan border. A new hydroelectric dam at the lake's outlet generates electricity for the western part of the country. (See Guatemala site 6).

**Principal vegetation:** No information.

**Land tenure:** No information.

**Protection:** None.

**Land use:** Generation of electricity; cattle ranching and agriculture in surrounding areas.

**Waterfowl:** No information.

**Other fauna:** The fish fauna includes endemic species of Poeciliidae, particularly of the genus *Heterandria*.

**Threats:** No information.

**Criteria for inclusion:** 0.

---

**Lago de Coatepeque (2)**

**Location:** 13°52'N, 89°33'W; 15 km south of Santa Ana.

**Area:** 2,200 ha.

**Altitude:** 850m.

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

**Site description:** A freshwater caldera lake with a small island; on the slopes of Volcan de Santa Ana.

**Principal vegetation:** No information.

**Land tenure:** No information.

**Protection:** None.

**Land use:** Fishing and recreation. There are many houses around the lake.

**Waterfowl:** No information.

**Other fauna:** No information.

**Threats:** No information.

**Criteria for inclusion:** 0.

---

**Barra de Santiago (3)**

**Location:** 13°42'N, 90°00'W; on the coast 30 km west of Sonsonate, in extreme western El Salvador.

**Area:** 4,800 ha.

**Altitude:** 0m.

**Province and type:** 8.16.4; 05, 07 & 08.

**Site description:** A chain of small brackish lagoons, marshes and mangrove swamps behind a sea beach.

**Principal vegetation:** Mangrove swamps.

**Land tenure:** No information.

*El Salvador*

**Protection:** None.

**Land use:** Shrimp farming.

**Waterfowl:** No information.

**Other fauna:** No information.

**Threats:** No information.

**Criteria for inclusion:** 0.

---

**Laguna Jocotal (7)**

**Location:** 13°19'N, 88°15'W; 17 km SSW of San Miguel, Department of San Miguel.

**Area:** 1,200 ha at maximum level.

**Altitude:** 20m.

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

**Site description:** A permanent freshwater lake, up to 3m deep, and marshes, to the north of the Rio Grande de San Miguel, and at the base of San Miguel Volcano. The lake is eutrophic, and most of the surface is covered with floating vegetation. There is a relict patch of swamp forest to the east of the lake. Water levels fluctuate widely; during the rainy season, the Rio Grande overflows and floods upto 1,200 ha; during the dry season the lake is reduced to 500 ha.

**Principal vegetation:** Submergent beds of *Hydrilla verticillata*, *Ceratophyllum demersum* and *Najas* sp; extensive floating beds of *Eichhornia crassipes* with some *Pistiastratiotes*, *Salvinia* sp and *Lemna* sp; emergent *Nymphaea ampla*; fringing marshes of *Phragmites communis*, *Typha angustifolia* and *Sagittaria lancifolia*; and some swamp forest. In the subtropical humid forest zone, but the forest around the lake has been cleared.

**Land tenure:** Mostly privately owned.

**Protection:** Within the Laguna Jocotal Wildlife Sanctuary (about 1,000 ha) established in 1978.

**Land use:** Fishing; agriculture (mainly cotton) and livestock grazing to the east. Three hundred families live around the lake.

**Waterfowl:** A very rich area for waterfowl, with a large breeding population of *Dendrocygna autumnalis*. Other common species include *Butorides virescens*, *Dendrocygna bicolor*, *Oxyura dominica* (up to 500 in winter), *Gallinula chloropus*, *Porphyryula martinica*, *Fulica americana*, *Jacana spinosa* and *Himantopus himantopus*.

**Other fauna:** No information.

**Threats:** The major threat is pesticide run-off from nearby cotton plantations.

**Research and conservation:** A considerable amount of research has been conducted on the flora and fauna of the lake, and particularly the waterfowl. M.F. Benitez Arias has studied the Rallidae, and J.A. Gomez Ventura is currently studying the *Dendrocygna autumnalis* population. The *Dendrocygna* population is being managed by the local inhabitants for food.

**References:** Benitez Arias (1981); IUCN (1982).

**Source:** See references.

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

---

**Golfo de Fonseca (8)**

**Location:** 13°23'N, 87°52'W; in extreme southeastern El Salvador, on the Honduran border.

**Area:** 11,000 ha.

**Altitude:** 0m.

**Province and type:** 8.16.4; 02, 05, 06, 08 & 09.

**Site description:** The western extremity of the Golfo de Fonseca, the greater part of which lies in Honduras and Nicaragua. A vast estuarine system with intertidal mudflats, mangrove swamps and sandy beaches. (See Honduras site 5 and Nicaragua site 1).

**Principal vegetation:** Mangrove swamps.

**Land tenure:** No information.

**Protection:** None.

**Land use:** No information.

**Protection:** None.

**Land use:** No information.

**Waterfowl:** No information.

**Other fauna:** The beaches are an important nesting area for sea turtles.

**Threats:** No information.

**Research and conservation:** M. F. Benito Arias is conducting research on the sea turtles.

**Criteria for inclusion:** 0.

---

**Lago de Ilopango (4)**

**Location:** 13°40'N, 89°13'W; 15 km east of San Salvador.

**Area:** 6,600 ha.

**Altitude:** 450m.

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

**Site description:** A deep freshwater lake in a volcanic crater in the mountains close to San Salvador city. In 1880, geological disturbance resulted in the appearance of an island in the lake, and a lowering in water level. The channel draining the lake has since become blocked, and the water level has risen again.

**Principal vegetation:** No information.

**Land tenure:** No information.

**Protection:** None.

**Land use:** A popular area for recreation, including water sports.

**Waterfowl:** No information.

**Other fauna:** No information.

**Threats:** Some pollution has been reported.

**Criteria for inclusion:** 0.

---

**Rio Lempa estuary and coastal lagoons (5)**

**Location:** 13°17'N, 88°50'W; 60 km southeast of San Salvador.

**Area:** 11,000 ha.

**Altitude:** 0m.

**Province and type:** 8.16.4; 02, 05, 07 & 08.

**Site description:** The estuary of the Rio Lempa, associated coastal marshes and mangrove swamps, and a long narrow coastal lagoon to the west, with sand beaches along the coast.

**Principal vegetation:** Mangrove swamps.

**Land tenure:** No information.

**Protection:** None.

**Land use:** No information.

**Waterfowl:** No information.

**Other fauna:** No information.

**Threats:** No information.

**Criteria for inclusion:** 0.

---

**Punta San Juan lagoons (6)**

**Location:** 13°10'-13°18'N, 88°16'-88°45'W; 40 km southwest of San Miguel.

**Area:** 37,000 ha.

**Altitude:** 0-10m.

**Province and type:** 8.16.4; 05, 07 & 08.

**Site description:** An extensive system of brackish coastal lagoons with mangrove swamps, and adjacent sand beaches.

**Principal vegetation:** Mangrove swamps.

**Land tenure:** No information.

**Waterfowl:** No information, but presumably similar to Nicaragua site 1.

**Other fauna:** No information, but presumably similar to Honduras site 5 and Nicaragua site 1.

**Threats:** No information.

**Criteria for inclusion:** 0.