

## Information Sheet on Ramsar Wetlands

Official translation by Charles Akin.

1. **Date this sheet was completed/updated:** 21 April 1998
2. **Country:** Ecuador
3. **Name of wetland:** Reserva Biológica Limoncocha
4. **Geographical coordinates:** 0 22' - 0 27' South latitude  
76 33' - 76 37' West longitude
5. **Altitude:** 230 metres above sea level
6. **Area:** 4,613 hectares
7. **Overview:**

About 10 per cent of the area of the reserve, 1700 hectares, is permanently or seasonally flooded, forming a marsh wetland. The Jivino River begins near the left bank of the Coca River, flows through the wetland and then flows for approximately 50 kilometres to its mouth behind the island of Pompeya. Another river in this wetland is the Capucui, which serves as an exit for water from Lake Limoncocha toward the Napo River. Water leaving the lake widens when it reaches the Capucui River and is covered with *gramalote*, forming a marsh called Yanacocha or Laguna Negra, because of the colour of the water. It forms the ecological nucleus of this wetland.

8. **Wetland type:** Continental O
9. **Ramsar criteria:** 2a, 2d, 3b, 4a
10. **Map of site included?** Please tick **yes** -or- **no**
11. **Name and address of the compiler of this form:**

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

There is a wide range of biodiversity of water fowl, fish and aquatic reptiles in this reserve and important permanent populations of rare species of *Ophistocomus hoazin* and *Melanosuchus niger*.

13. **General location:**

The reserve is approximately 210 kilometres east of Quito in the province of Sucumbíos, canton of Shushufindi, parish of

Limoncocha. The nearest city is Puerto Francisco de Orellana, one hour by outboard up the Napo River from the reserve.

#### **14. Physical features:**

The climate of the Limoncocha Biological Reserve is uniform very hot and very humid. Total rainfall in the area is high, almost always more than 3000 mm. Average annual rainfall is 3244 mm. Distribution of rainfall is very regular throughout the year, except for a dry period between December and February. Average annual temperature is about 25 C. Relative humidity is about 89 per cent, and there are approximately 1000 hours of sunlight per year.

Lake Limoncocha began about 1,300 years ago as a river, created by a tributary of the Napo River. The lake bottom is flat with a maximum depth of 2.3 metres. Maximum length is 3 kilometres by 1 kilometre in width. The water surface is approximately 370 hectares. Limoncocha is a eutrophic lake with a high rate of primary production. Almost 90 per cent of the phytoplankton in Limoncocha are blue and green algae, followed in importance by diatoms.

The Limoncocha Biological Reserve is on a large sedimentation plain deposited on a substrata of worn clay, with groups of scattered red clay hills. This area is drained by several clear-water streams with, tributaries of the Aguarico and Napo rivers. Drainage is insufficient only along the southern edge that borders the Napo River. Topography is hilly and subject to seasonal flooding which has formed dikes and cut channels.

In the area of the Limoncocha Biological Reserve, the following types of soils have been reported: soils developed on usually well-drained, alluvial and colluvial deposits of volcanic origin, and soils on alluvial terraces and swampy depressions found in consolidated deposits of volcanic sands.

#### **15. Hydrological values:**

The Limoncocha Biological Reserve forms part of a third order basin of the Capucui River, which empties into the left bank of the Napo River. The Jivino River has rich fisheries, and its shores are settled by indigenous communities of Quichuas, Shuaras and settlers.

#### **16. Ecological features:**

The dominant ecological formation in the area around the lake is humid tropical forest. The following types of forest and vegetative formations are found: continental primary forest, continental secondary forest, seasonally flooded primary forest, seasonally flooded secondary forest, seasonally flooded scrub swamp and permanently flooded scrub swamp. These last two formations cover 12.3 per cent of the area of the reserve.

#### **17. Noteworthy flora:**

The most abundant families in the forest are Arecaceae, Bombacaceae, Moraceae and Myristicaceae. The most important genera are *Bactris*, *Bombax*, *Ficus*, *Mauritia*, *Quararibea* and *Virola*.

**18. Noteworthy fauna:**

There are 41 species of fish in 19 families recorded in Limoncocha. Most notable are *Electrophorus electus*, *Potamotrygon hystrix* and *Serrasalmus rhombeus*. There are three species of crocodiles, with the black caiman (*Melanosuchus niger*) having the largest population. A total of 464 species of birds have been recorded, of which 68 species are aquatic with important populations of *Anhinga anhinga*, *Butorides striatus*, *Ceryle torquata*, *Jacana jacana*, *Ophistocomus hoazin*, *Porphyryla flavirostris*, *Porphyryla martinica* and *Sterna superciliaris*. There are eight species of primates in the surrounding forest and several species of amphibians. There are no aquatic mammals in the lake.

**19. Social and cultural values:**

All of the Quichua communities have access to Lake Limoncocha for fishing, which is the only source proteins in their daily diet. There are archaeological vestiges from the Napo period, which are held in the archaeological Museum in Pompeya.

**20. Land tenure/ownership of:**

The Limoncocha Biological Reserve is public property. Nonetheless, there are settlements of Quichuas on the left bank of the Napo River, who carry out subsistence farming.

**21. Current land use:**

The forest around the lake has gradually been exploited. The communities settled in the area carry out subsistence agriculture, using slash and burn techniques, growing primarily bananas and manioc. Pasture is grown over a small area.

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

The main threat to this wetland is petroleum exploration, production and extraction operations carried out by a foreign company. There are several wells within the reserve. In spite of implementation of resolutions and environmental management plans, there are environmental problems.

**23. Conservation measures taken:**

The reserve was incorporated into the Patrimonio Nacional de Areas Protejidas through Ministerial Agreement 394, dated 23 September 1985. Later, on 29 September 1986, the original

limits of the reserve were changed to the present limits. Management guidelines were established in 1987.

**24. Conservation measures proposed but not yet implemented:**

A management plan is expected to be prepared in 1998.

**25. Current scientific research and facilities:**

In 1997, a research station was established under the administration of SEK International University. Plans are being made to carry out surveys of the populations of eight species of aquatic birds, a population survey of the *Melanosuchus niger* and a study of the species of fish found in the lake.

**26. Current conservation education:**

The management of the reserve provides information brochures to visitors.

**27. Current recreation and tourism:**

Until 1991, the tourist agency Transturi carried out tourist programmes in the reserve. Later, because of the presence of the oil companies in the area, it left the reserve. The local communities are now interested in developing this activity, although basic infrastructure has not yet been provided for tourism. Possibilities are being studied for training and conservation of several environments and the construction of facilities for the development of ecotourism. Limoncocha Lake is the main tourist attraction, where several species of caimans, turtles, birds, fish and insects can be easily observed.

**28. Jurisdiction:**

The Limoncocha Biological Reserve is part of the Patrimonio Nacional de Areas Protejidas and is managed by the Dirección Nacional de Areas Naturales y Vida Silvestre of INEFAN:

**29. Management authority:**

Jefe de Area de la Reserva  
Avenida Amazonas and Avenida Eloy Alfaro  
Edificio Ministerio de Agricultura  
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**30. Bibliographical references:**