

Information Sheet on Ramsar Wetlands

Translation of original Information sheet by Charles Akin
(August 2000)

1. **Date this sheet was completed/updated:** 15 March 1999

2. **Country:** Costa Rica

3. **Name of wetland:** Manglar de Potrero Grande

4. **Geographical coordinates:**

10 50' 44" North latitude

86 46' 45" West longitude

5. **Altitude:** Sea level

6. **Area:** 139 hectares

7. **Overview:**

This wetland is the most developed and intact dry forest mangrove on the Pacific Coast of Costa Rica. Its unique characteristics include very low precipitation, high salinity, strong winds and high temperatures, resulting in a relatively low mangrove (12 metres in height).

In contrast to other mangroves, this mangrove of alluvial origin is contiguous to a mosaic of semi-deciduous primary forest and a mixture of replanted forests growing on several types of substrata and states of succession. This is an example of a range of well-conserved ecosystems from oceanic, mangrove and dry forest growing on alluvial and serpentine soils. This mangrove is in the extreme northern part of the dry Pacific and forms part of a protected strip that extends from sea level through the Guanacaste volcanic range to the Atlantic rain forest, all protected in the Guanacaste Conservation Area.

This linking of different ecosystems has allowed many species to depend on more than one of these ecosystems for their survival. Because it is the most developed and intact of the mangroves in the northern part of Costa Rica, it makes a significant contribution to the marine life and fisheries in the area.

8. **Wetland type:** Marine coastal A, F, H, I

9. **Ramsar criteria:** 1a, 1c, 1d, 2a, 2b, 2c, 3b, 4a, 4b

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:

Potrero Grande is the most developed and best preserved mangrove in the dry tropical forest of northwestern Costa Rica. It is an ecosystem of great importance for the survival of thousands of species, including a large number of marine species. In addition, it is considered unique because of a thriving and rare population of *Pelliciera rizophorae*. Because it is the most developed mangrove in the area, there are populations and specimens of endangered or rare species. It protects genetic diversity and acts as a true genetic bank for the reproduction and growth of the most representative fish populations in the area.

13. General location:

This wetland is located in northwestern Costa Rica in the province of Guanacaste on the Santa Elena Peninsula in the canton of La Cruz, district of Santa Elena; approximately 50 kilometres due north of the city of Liberia.

14. Physical features:

This mangrove also has unique geological characteristics because it is at the oldest site in all of Central America. It is estimated to be between 88 and 200 million years old and is formed by partially serpentized peridotites. The Santa Elena Peninsula is almost formed by 300 square kilometres of peridotite that breaks the surface and is considered to be an ex situ formation over an relatively sedimentary and volcanic in situ formation that reaches the surface in the Potrero Grande valley (Tournon and Alvarado 1997).

15. Hydrological values:

At the site, the coast is stabilised and there is little coastal erosion and stabilization of sedimentation.

16. Ecological features:

The main habitats found in the mangrove are formed by channels subject to periodic flooding and the associations of plants common to the Costa Rican mangroves: nuclear vegetation, marginal vegetation and halophytic vegetation, next to a dry forest with a large population of mahogany (*Swietenia macrophylla*).

17. Noteworthy flora:

Among the species found in the nuclear zone are *Avicenia bicolor*, *A. germinans*, *Laguncularia racemosa*, *Rhizophora mangle*, *R. racemosa* and of special importance because of its distribution and population status is a stand of *Pelliciera rhizophorae*. Among the marginal vegetation in the mangrove, is *Tabebuia palustris* in addition to the common species.

18. Noteworthy fauna:

Among the main species of animals found here are the following molluscs *Anadara multicostata*, *A. tuberculosa*, *Atrina maura*, *Crassostrea corteziensis*, *Grandiarca grandis*, *Mytilus spp.*, *Mytella guyanensis*, *Mytella strigata*, *Protothaca grata*, *P. rugosa* *Saccostrea palmula*. Several important bird species have been recorded at the site such as *Sula spp.* and others that use the site for nesting such as frigate birds and the yellow-naped amazon (*Amazona auropalliata*).

This site is also important because it is a habitat for marine fauna.

19. Social and cultural values:

This site has not been exploited for a long time except for periodic use by small-scale fishermen in the surrounding areas and very occasional tourism because of the difficult access.

20. Land tenure/ownership of:

All of the mangroves in Costa Rica are classified as protected wildlife areas under the jurisdiction of the Ministerio del Ambiente y Energía (MINAE) as part of the Sistema Nacional de Areas de Conservación (SINAC). Because it is in the coastal area, it is in the public domain and cannot be used by the public for any purpose.

21. Current land use:

Currently, this area is not used, except for the uses mentioned in item 19.

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

The surrounding area was used more than 30 years ago for agriculture and extraction of timber, for which there were buildings and road and a small dock for loading timber. This area is now in a healthy state of recuperation.

23. Conservation measures taken:

Reference is made to item 20. Law 7175 (Forestry Law) prohibits the extraction of trees without a proper forestry management plan and appropriate permission. Law 7317 (Wildlife Law) regulates the use of wildlife. The mangroves were

declared a forest reserve in accordance with executive decree No. 7210-A of 4 August 1977, modified by executive decree 1005-A, 15402-MAG and 16852-MAG of 10 May 1979, 23 March 1984 and 14 February 1986.

24. Conservation measures proposed but not yet implemented:

There are no specific conservation measures for this mangrove, but it is considered to be a very important area for Costa Rica. Research is needed to be able to understand this intricate and important ecosystem.

25. Current scientific research and facilities:

Until now, only a few small biological surveys have been made. There is no infrastructure near the mangrove.

26. Current conservation education:

In the Guanacaste Conservation Area (ACG), there is a biological education programme which includes formal training on mangroves among other topics in biology. One of the objectives of the ACG is to develop and strengthen awareness and understanding among school children about nature (bio-alphabetization). The programme is now working with 42 primary schools and 6 secondary schools in the region. More than 2200 children have the opportunity to observe and understand through direct contact with nature and biology.

27. Current recreation and tourism:

Tourist activities in this mangrove are very sporadic or almost non-existent because of the very difficult access.

28. Jurisdiction:

The Manglar de Potrero Grande is in the jurisdiction of the Province of Guanacaste, canton of La Cruz, district of Santa Elena. Administrative jurisdiction is the responsibility of the Ministerio del Ambiente y Energía (MINAE) and the Sistema Nacional de Areas Protegidas (SINAC) through the Guanacaste Conservation Area.

29. Management authority:

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30. Bibliographical references:

There are no specific studies of this wetland.