

# BUILDING A NETWORK OF FRESHWATER PROTECTED AREAS (FWPAs) CRITICAL TO RIVER DOLPHIN CONSERVATION

## Introduction

Protected Areas (PAs) are a primary tool for conserving biodiversity and have provided an effective strategy for the conservation of representative terrestrial and marine ecosystems around the world. Unfortunately, freshwater aquatic ecosystems and species have only been protected largely incidentally when they are included within the boundaries of terrestrial PAs, and this does not guarantee protection of aquatic resources.

The failure to establish a greater number of FWPAs in South America is due in part to the lack of ecosystem-based management by governments and environmental authorities, as well as to insufficient consideration given to freshwater resources by the people exploiting them. There is now an urgent need to establish a network of well-managed freshwater protected areas (FWPAs) in South America, as part of a suite of actions to ensure good long-term conservation of species and habitats.

## FWPAs

### Fresh Water Protected Areas in South America

Freshwater ecosystems are in crisis. Many freshwater species and their habitats in South America are in serious danger of disappearing as resources are overexploited without management and planning. Conservation strategies are urgently required to ensure threats are mitigated and at the same time, natural resources and the well-being of local communities protected. Identification and protection of freshwater habitats of biological importance through the creation of FWPAs and adequate protection of freshwater ecosystems is crucial for the process of saving endangered species that depend on them.

The river dolphins, *Inia geoffrensis*, *Inia boliviensis* and *Sotalia fluviatilis*, are among the species at serious risk in the major freshwater ecosystems of South America, the basins of the Orinoco River and the Amazon River. These species are highly mobile and travel through and utilise various habitats to meet their basic needs. As fully aquatic mammals, dolphins depend exclusively on the quality and condition of the riverine ecosystem to survive. Every impact on the ecosystem has the potential to affect the river dolphins as reflected in their behaviour, distribution and in the status of their populations.

Currently, there are no protected areas created exclusively for river dolphins in South America. River dolphins are emblematic, charismatic animals which capture people's imagination and command their attention. These aquatic animals need a wide variety of freshwater habitat types to thrive and are central to the myths and legends of local cultures. In addition, river dolphins are being increasingly recognised as important for ecotourism in Amazonian countries and are thus important elements of the conservation strategies for FWPAs.

## SARDPAN

### South American Dolphin Protected Area Network

To help address the need for a network of FWPAs in South America which fully considers the protection of river dolphins and their habitats, WDCS, the Whale and Dolphin Conservation Society, in coordination with researchers in the region, has set up the South American River Dolphin Protected Area Network (SARDPAN).

SARDPAN is meant to be as much a network of river dolphin protected areas as a network of protected area researchers, government departments and NGOs who contribute to river dolphin conservation. Currently, WDCS is working with researchers in six South American countries to assemble a directory of existing as well as proposed protected areas which include river dolphin habitat. While recognizing that there are many gaps, the goal is that by looking at the big picture, these gaps can be addressed in a concerted, non-redundant way, and further proposals can be made.

WDCS's role can be seen as overall guidance, support and offering an international profile, in terms of its experience and expertise with cetaceans around the world, including river dolphins in South America. WDCS has worked on river dolphins in several South American and Asian countries almost since WDCS was founded in 1987. WDCS's expertise with MPAs and PAs dates from the mid-1990s as shown in the publication of the WDCS book Marine Protected Areas for Whales, Dolphins and Porpoises which included substantial sections on river dolphins (Hoyt 2005). This book is now in preparation for a second edition, and will specifically include a case study on SARDPAN, as well as a detailed SARDPAN map and other information.

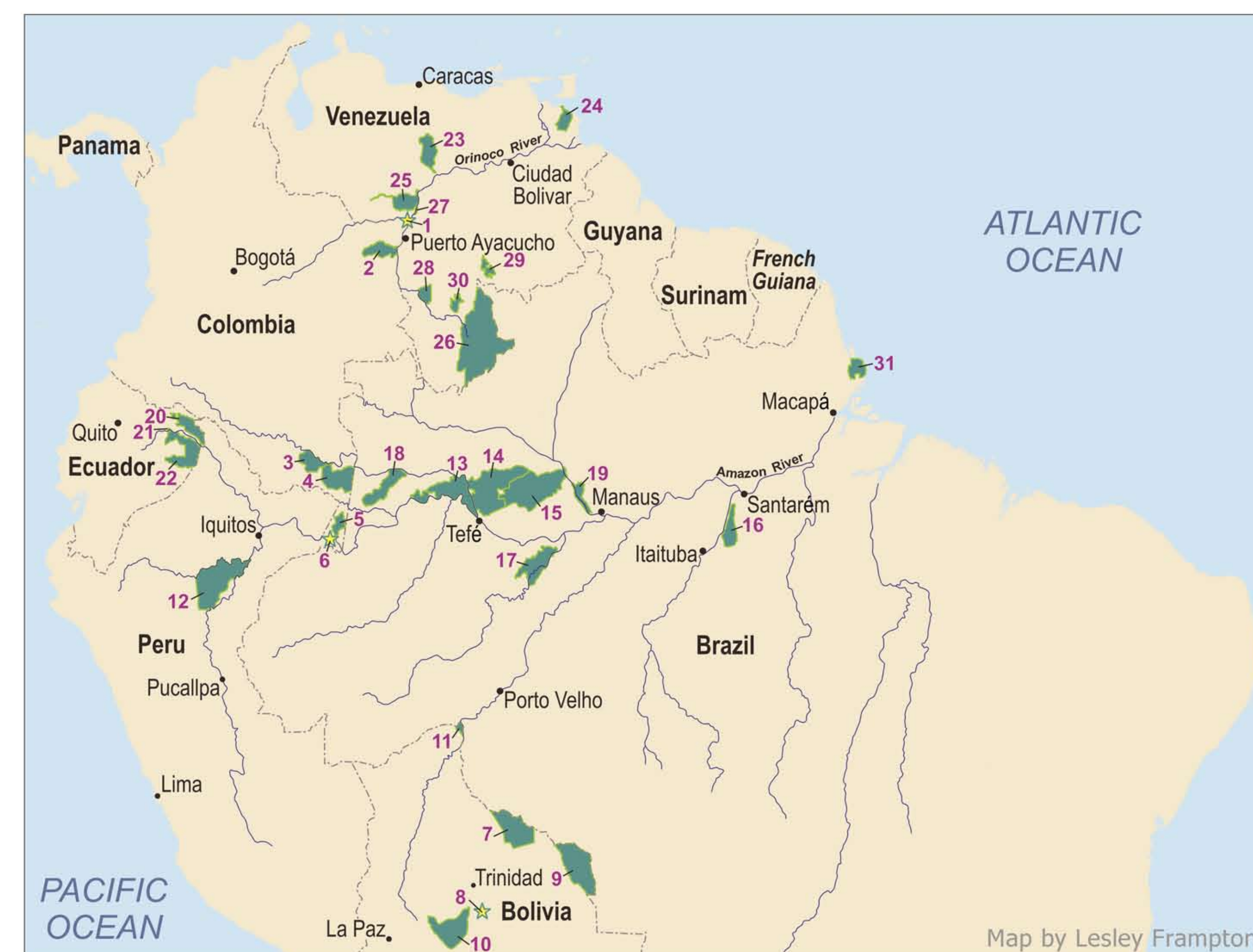


Figure 1. Proposed FWPAs in South America within SARDPAN. Proposed protected areas labelled with yellow stars.

- |   |                     |                      |
|---|---------------------|----------------------|
| 1 Confluence Rivers Meta and Orinoco    | 10 Isiboro          | 21 Limoncocha        |
| 2 El Tuparro                            | 11 Bruno Racua      | 22 Yasuní            |
| 3 Cahuinari                             | 12 Pacaya - Samiria | 23 Aguaro-Guariquito |
| 4 Pure River                            | 13 Mamirauá         | 24 Orinoco Delta     |
| 5 Amacayacu                             | 14 Amana            | 25 Santos Luzardo    |
| 6 Tarapoto, El Correo and Caballo Cocha | 15 Jau              | 26 Parima-Tapirapeco |
| 7 Iténez                                | 16 Tapajos          | 27 Tortuga Arrau     |
| 8 Mamoré                                | 17 Piagaçu-Purus    | 28 Yapacana          |
| 9 Noel Kempff                           | 18 Juami-Japura     | 29 Jaua Sarisariñama |
|   | 19 Anavilhanas      | 30 Duida Marahuaca   |
|   | 20 Cuyabeno         | 31 Piratuba Lake     |

## Case study: Colombian Amazon

### Tarapoto and El Correo Wetland System

#### Type

Freshwater Amazon wetland ecosystem - the Tarapoto lakes and their floodplains (including flooded forest, backwaters and streams), connected to Amazon River.

#### Size

20,321 ha (203.2 sq km)

#### Location

3°46'54" S, 70°23'03" W. The area is located on the northern bank of the Amazon River in southern Colombia, close to Puerto Nariño.

#### Cetacean species

Amazon river dolphin or boto, *Inia geoffrensis*, and tucuxi, *Sotalia fluviatilis*.

#### Additional species and other features

Amazon manatee (*Trichechus inunguis*), black caiman (*Melanosuchus niger*), giant turtle (*Podocnemis expansa*), pirarucu (*Arapaima gigas*) and river otter (*Lontra longicaudis*). Outstanding fish biodiversity and other associated aquatic species.

#### Rationale

The lakes and their floodplains are critical habitat, serving as breeding and spawning areas for fish as well as feeding areas for river dolphins and nursery areas for their calves. This wetland system is considered by local people and researchers as an area of high conservation value, which supports key elements of Amazonian biodiversity and its ecological processes.

Currently, joint efforts between NGOs, universities, Amazonian institutes and leaders of indigenous communities have set up a Management Plan to conserve, protect and value the local wildlife, ecosystems and other aquatic resources of this area according to scientific data and traditional knowledge. This area has been included as part of SARDPAN due to its importance for maintaining key features of aquatic ecosystems along with the livelihoods of local communities.

#### Threats

- **Overfishing** - Large catfishes and the pirarucu (largest freshwater fish). Fisheries are not currently monitored or managed.
- Increasing amounts of **motorised boat traffic** causing noise and fuel pollution.
- **Exploitation of wildlife** - Turtle nests looted for eggs, and direct captures of caimans and river otters.
- **Incidental capture of dolphins** in fishing gear

River dolphins are also at risk due to their perceived threat to fisheries. Some fishermen believe dolphins compete with them for the same fish stocks. River dolphins do cause damage to nets and to some fish caught in the nets.



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