

## **Pink River Dolphin**

**Scientific name:** *Inia geoffrensis* de Blainville, 1817

**Common names:** Pink dolphin, boto (bugeo, bufeo, or tonina in the Orinoco region), also known as river dolphin.

The pink river dolphin has a robust yet very flexible body and a long beak, typical of the family. Sensory hairs are present on top of the beak, although they are more conspicuous in young and juveniles. Dentition is heterodont with incisors at the front of the jaw and molars at the back. The dorsal “fin” begins at the end of the first third of the body and is generally long and low, somewhat similar to a keel. Flippers are large and have a specially adapted joint with the scapula to allow a pronounced angle of rotation. Unlike the majority of dolphins, this species has free cervical vertebrae, allowing the head to be moved from side to side.

Colouration is variable within and between geographic areas. However, young are generally dark grey and either remain so as they grow older or turn greyish pink. It has also been reported that some grey dolphins can turn pink in a matter of minutes after intense physical activity, probably due to the species’s thermoregulation strategies. Gestation can last up to 10 or 11 months and most young are usually born during the low water season or during the transition to high water.

### **Habitat**

River dolphins inhabit the drainage areas of the largest rivers in the world, mainly in developing countries. The pink river dolphin is widely distributed in the Amazon and Orinoco basins, in Colombia, Venezuela, Brazil, Ecuador and Peru. Currently, two species are recognised, *Inia boliviensis* in Bolivia and *Inia geoffrensis*, which contains two subspecies: *I. geoffrensis geoffrensis* in the Amazon and *I. geoffrensis humboldtiana* in the Orinoco.

*Inia geoffrensis* inhabits the Orinoco and Amazon river basins. The species is found in fast flowing lowland rivers, in both whitewater or turbid rivers originating in the Andes with high sediment content as well as clear water or blackwater rivers of Amazon origin. In the Orinoco basin, these dolphins are often found at confluences of different river types, in zones of mixed waters.

## Threats

- **Interaction with fisheries**

In the Orinoco, fishing of Silver Dollar or Palometa (*Mylossoma* sp.) has caused conflicts between fisheries and dolphins. To capture this species, fishers first clear vegetation from plains alongside riparian forests, then when water levels rise, they throw maize into the water for a period of 5 to 20 days to attract large quantities of Palometas. The fish are subsequently caught using rods and hooks. Some 200 kg of Palometa can be taken using this method. The fish are generally sold in Venezuela.

Over the last five years, fishers have reported that during this process, groups of more than four dolphins appear in these areas, attacking the Palometas and causing economic losses. Faced with this situation, fishers have shot or harpooned the dolphins to prevent further loss of fish.

In the Amazon and Orinoco rivers, fishing has begun of the carrion-feeding Vulture Catfish (*Calophysus macropterus*) known as Mapurito in the Orinoco region and Mota or Simí in the Amazon. The fish is caught using dolphin meat as bait. Formerly, pig's innards or viscera from other animals were used to capture the Vulture Catfish, but this practice has now been replaced by the use of threatened species such as dolphins or caimans.

Fishing of this species is mainly carried out in Brazil, where several estates are involved in the fishing, sale and distribution of Vulture Catfish. Actors in the commercial chain include bait hunters and fishers as well as storage facilities supplying shipping vessels which transport the fish to Leticia from where it is sent to Bogotá and other cities within Colombia. The Vulture Catfish is sold under the name of Capaz (*Pimelodus grosskopfii*), a species from the River Magdalena which was overfished and is therefore not caught anymore.

In the Orinoco region, those catching Vulture Catfish are known as *guareros* and are responsible for obtaining the dolphins, caimans or pigs used as bait (either captured or bought). The ease and efficiency of catching Vulture Catfish due to a plentiful supply of bait (dolphins and caimans) as well as quarry has led to increased interest in the species in recent years. Commercially, the fish has had a favourable reception, given that consumers are unaware of the fish's dietary habits and

its method of capture. However, implications of the mass exploitation of this species on food chains within rivers have not been evaluated.

- **Dams and waterways**

The construction of dams and navigable channels causes habitat fragmentation and represents a direct threat to dolphin populations given that it affects their distribution and movements. Large dam and waterway projects are under construction in Brazil. However, there have been no concrete plans to date for their construction in the principal rivers of Colombia (Amazon, Orinoco and Arauca).

The main alterations to ecosystems from this type of project are:

- Changes to physical and chemical properties of the water, especially the reduction of oxygen and the increase of sulphuric acid which can cause fish mortality.
- Pollution due to pesticides (organochlorine compounds) used in agriculture; heavy metals such as mercury used in gold extraction; and other elements used in the paper industry (nitrogen, phosphorus, chlorine, aluminium, barium, calcium, iron, potassium, magnesium, sodium and silicon).
- Reduction in a large variety of fish species making up part of the dolphins' diet.
- Destruction and fragmentation of key habitats for many species.

- **Petroleum pollution**

The petroleum industry threatens the Amazon and Orinoco basins. In Colombia, armed groups have blown up oil pipelines, causing serious damage. The Caño Limón oil pipeline (running from Arauca to Bolívar) has been subject to 473 attacks since it was built. The resulting 1.5m barrels of spilt petroleum have caused irreparable pollution to aquatic ecosystems. In total, these oil spills are among the six largest in history and the largest of any in continental waters. The principal problems associated with the petroleum industry are as follows:

- Construction of new roads for petroleum exploration.
- Oil spills
- Deforestation
- Increase in human settlements and expansion of agricultural frontiers

## **Conservation actions**

For the last 15 years, the Fundación Omacha has consolidated research and conservation plans for river dolphins in Brazil and Colombia in conjunction with government institutions (Colciencias), NGOs and local communities. Through research carried out, knowledge of the biology and ecology of these species has increased considerably. Also, the principal threats have been identified and actions have been begun towards their mitigation.

Furthermore, a research programme has been undertaken to develop suitable methods to estimate the abundance of these species in South American rivers. The programme is supported by institutions such as the Whale and Dolphin Conservation Society, the IUCN Cetacean Specialist Group and WWF.

Educational campaigns have been carried out, especially in Colombia, which has created greater awareness among the general public with regards the conservation of river dolphins. Aspects of the campaign have included information published in school exercise books, newspapers and television news regarding efforts to bring together initiatives implemented by the Fondo para la Acción Ambiental, the Royal Netherlands Embassy and the private sector, for example, the company Carvajal.

In Colombia, work carried out with local communities has significantly reduced dolphin mortality in the Amazon and Orinoco. Furthermore, projects involving ecotourism and handicrafts have been set up. Finally, due to the charismatic qualities of the species, many donor organisations have expressed interest in funding projects which not only aim to conserve the dolphin but also the ecosystems they inhabit. River dolphins have therefore become flagship species for the principal river systems in the Amazon and Orinoco regions of Colombia.

### **Conservation importance**

Currently, river dolphins are the most threatened mammal species in the world, particularly as a result of the reduction of their former range due to aquatic habitat fragmentation. These severe threats could considerably reduce dolphin populations. However, in South America, populations are fairly healthy and there is still potential to implement effective management plans to avoid reductions in number and possible extinction.

River dolphins are positioned at the apex of aquatic ecosystems given that they are present in all types of habitat (large rivers, smaller tributaries, lakes, confluences and flooded forests). They play an important role in regulating fish communities and can also be employed as indicators of ecosystem quality in terms of prey availability.

Additionally, they are of great cultural value for the majority of indigenous communities living along river banks, taking a fundamental place in their cosmogony. As a result of their biological and cultural importance, dolphins have become striking conservation objectives, through which efforts can be channelled to manage South American aquatic ecosystems.

**Other facts of interest:**

- The Fundación Omacha has been working on furthering the conservation and knowledge of river dolphins in the Amazon and Orinoco basins for more than a decade.
- The pink river dolphin is the largest freshwater dolphin in the world. They can reach lengths of up to 2.80 m and weigh up to 180 kg.
- They have robust and very flexible bodies although they are not very hydrodynamic.
- They employ a very sophisticated sonar system which allows them to move without hindrance in turbid waters.
- Their beaks are long and contain approximately 106 teeth.
- Their eyes are small yet functional, adapted to the turbid waters of their habitats.
- Their colouration is variable, generally they are grey at birth, as they grow older they either remain grey, turn pink or take on an intermediate colouration.
- Gestation period is almost 11 months.
- The young often remain in lakes where nursery systems are established.