

FIRST TAGGING WITH A RADIO-TRANSMITTER OF A RESCUED INDUS RIVER DOLPHIN NEAR SUKKUR BARRAGE, PAKISTAN

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The Indus River Dolphin (*Platanista minor*) is one of the four obligate freshwater dolphin species which is endangered and is endemic to the Indus River, Pakistan. The minimum abundance of the species is about 1,341 according to the last comprehensive survey conducted in 2006 (Pakistan Wetlands Programme, WWF – Pakistan, unpublished data). The highest density is currently observed in the Sindh Province, mainly between Guddu and Sukkur barrages. In 1974 an area of about 200 km between Guddu and Sukkur barrages was declared as a Dolphin Reserve by the Government of Sindh. This Reserve is also a Ramsar Wetland.

The existing population of the Indus River Dolphin is threatened by water pollution, commercial fishing, and degradation of the habitat. Moreover, there are accidental dolphin deaths when they are trapped in irrigation canals. WWF - Pakistan is working with the Sindh Wildlife Department for the conservation of the Indus River Dolphin since 1998. The project component on conservation of this species includes translocation of trapped dolphins from irrigation canals to the Indus River. As part of a scientific research programme one of the objectives of the project is to document the natural history of the species through non-invasive research methods such as remote-telemetry.

Rescue of an Indus River Dolphin: An Indus river dolphin was spotted by the staff of the Sindh Wildlife department on 11th January 2009, trapped in the Mirwah irrigation canal, at Patna regulator, emanating from the Sukkur Barrage (GPS location N 27°3825.9, E 68°5149.5). After making the assessment of the stranding site a rescue operation was organised on 13th January 2009, by WWF - Pakistan in collaboration with the Sindh Wildlife Department and the Environment Agency, Abu Dhabi. The objective was to rescue and tag the stranded dolphin and return it back to the Indus River.

Capture and handling of the animal: After the assessment of the stranding site, nets were placed by a team of community-based swimmers to encircle the dolphin. The nets were then pulled towards the shallow water close to the canal bank. The dolphin was caught as it swam close to the shallow water by a team of swimmers. Soon after capture, the animal was moved on a stretcher with foam mats and was weighed, sexed and body measurements were taken. This method has been adopted from marine mammal rescues (Geraci and Lounsbury 1993) and refined later by Khan (2005). During transportation, the animal was closely monitored for any signs of stress. To avoid hyperthermia, the animal was covered, (except the blowhole), with wet towels. The rescued dolphin, named Musafir (traveller), was a 2.5 years old, 18 kg male, measuring 118 cm in length. It was successfully transported to the release site (Indus River) close to the Sukkur barrage (N 27°4128.0, E 68° 5254.7). The rescue operation lasted a total of three hours.

Radio transmitter tagging: Technical support for fixing the transmitter and training of staff to conduct radio-tracking was provided by the Environment Agency, Abu Dhabi. Before Musafir was released, a VHF radio-transmitter was fixed to its dorsal fin. It was the first time this species had ever been radio tagged. The



Fig1. Dolphin translocation and tagging team (©Uzma Khan).

biggest challenge in fixing the transmitter was the size of the dorsal fin. Unlike marine dolphin species the size of the dorsal fin is very short in river dolphins. A 17.6 gram external mount radio-transmitter (Model F2060 - Advance Telemetry Systemic, Inc, USA) powered by a Lithium battery giving a life expectancy of 654 days was selected for the study. Two sterile hypodermic needles were passed through the base of the dorsal fin. Two plastic coated wires (external attachments) attached to the transmitter were then pushed through the hypodermic needles. Both the needles were pulled out leaving the wire (external attachments) in place. A disc was slid down through each wire on the opposite of the transmitter and was locked with the help of sleeves. To avoid injury to the delicate skin, a padding of Neoprene (synthetic rubber) was placed between the transmitter and the disc. After fixing the transmitter the dolphin was released back into the mainstream and the location of the release site was recorded with GPS (Map Figure 2).



Fig2. Map showing the location of the rescue and release site (©WWF-Pakistan).

Conclusion: Our first experience of tagging an Indus River Dolphin has been successful. The dolphin is being tracked twice daily by boat and its GPS locations are being recorded by the field staff. So far, very interesting telemetry data on its movement have been collected. The dolphin has been able to cross the Sukkur barrage during the low water flow at 14,000 cubic metres of water a second, moving both ways downstream and upstream. This provides the first scientific proof of the movement of the Indus River Dolphin across the barrage. In future, the possibility of fixing a Satellite GPS transmitter will be explored.

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