

## Preliminary notes on the existence of a dolphin by-catch off French Guiana

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Recently, during a short visit to French Guiana (25 April–1 May 1989), the author interviewed both local and foreign fishermen in order to find out whether or not a small cetacean by-catch occurs.

Extensive fieldwork in Peru and Chile has shown that valuable information can be obtained through fishermen if questions are carefully formulated and the answers given cross-checked and used with caution (Read *et al.*, 1988; Van Waerebeek *et al.*, 1988). The preliminary material presented here was gathered at wharves, fishmarkets and the fishermen's rendezvous points of Cayenne (04°56'N, 52°20'W) and Saint-Laurent-du Maroni (05°30'N, 54°02'W). Photographs were taken for later identification of fish species offered for sale at the Cayenne fish market.

A dozen or so wooden, about 20 m long fishing boats are operated by Venezuelans out of Cayenne. Several as yet unidentified teleost fish species are caught with hand lines (each with six hooks) baited with sardines. Several Venezuelan fishermen reported that although small schools of dolphins are regularly seen, there exists no by-catch in the line fishery. However one fisherman admitted that they occasionally harpooned dolphins for bait. Indicative should be the fact that several persons interviewed apparently were quite familiar with the typical characteristics of dolphin meat, i.e. dark colour and low fat content. A recent incident was cited in which three harpooned dolphins were seized, and the captain fined, upon arrival in a non-specified Venezuelan harbour. Reportedly harpoons are carried along to capture leatherback turtles (*Dermochelys coriacea*), which are relatively common in the area.

Brazilian fishermen operating in French Guiana's waters reported a regular by-catch of dolphins. Large mesh (10 cm × 10 cm) multifilament nylon gill nets are set for a variety of pelagic fish species, including sharks. Pelagic fish species seen at the market included mullets (*Mugillidae*), several *Sciaenidae* and species belonging to the *Megalopidae* ('tarpan') and *Carangidae*. Benthic species observed included *Arius parkeri*, *A. proops* (Ariidae) and a loricarid fish. All of

the species and families mentioned are very common at the Cayenne fish market (F. Meunier, *in litteris*).

One Brazilian boat carried a 2000 × 7 m gill net. On only one occasion did I notice a small-mesh monofilament gill net on the wharf. The wooden boats, equipped with a cabin but no navigational instruments, are quite similar to the Venezuelan vessels. They leave port for up to a week at a time and load ice on departure. One estimate by a fisherman was that for every fishing trip an average of 4–5 dolphins become entangled. Dead dolphins, which are considered useless, are as a rule discarded at sea. The fishermen seemed to be aware that landing dolphins could result in trouble with port authorities. Indeed, as an overseas department, French Guiana is governed by the same laws as metropolitan France. An order of 20 June 1970 by the Director of French Maritime Fisheries prohibits the destruction, pursuit, or capture by any means, whether intentional or unintentional, of all species belonging to the dolphin family (Marashi, 1986). The Brazilian seamen interviewed said they had tried dolphin meat but did not like it particularly. Reportedly between 20–25 Brazilian gill net boats, many from Macapá (00°02'N, 51°03'W), operate out of Cayenne on a nearly year round basis. Unfortunately it was not possible to confirm with any certainty the dolphin species involved. However, repeatedly both a smaller species, likely the tucuxi (*Sotalia fluviatilis*), and a larger (2–2.5 m) species (*Tursiops?*) were described. It was not clear either how far offshore those animals were caught.

The French are basically involved in a trawl fishery for shrimp (supposedly *Penaeus* spp.) which is unlikely to catch any small cetaceans with any frequency.

At Saint-Laurent-du Maroni on the Marowijne River bordering Surinam, the author also interviewed fishermen at the local fish market, but was met with much stronger distrust than at Cayenne Port. Communication was difficult as well, as many hardly spoke French. One man told me that he had never seen dolphins (he used the term 'marsouin' or porpoise) at the small fish market, but that he

had frequently observed them from canoes on the Marowijne River. I assume these animals are tucuxis.

Although it is too early even for a rough estimate, it is likely that the Brazilian gill net fishery off French Guiana accounts for a considerable dolphin mortality, which could be as much as a few thousand animals per year. I recommend that an extensive survey be organised along the entire coast of the 'Guyanas' (including Guyana, Surinam and French Guiana) to identify and document small cetacean/fisheries interactions. In French Guiana special attention should go to the proposed and existing marine and estuarine conservation areas, such as the Sinnamary and Iracoubo estuary, Kaw Marshes, Pointe Béhague and lower Oyapock River (IUCN 1986). Also, an observer should go on board the Brazilian vessels to find out what the true extent of the by-catches are and which species are involved.

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