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TITLE: Both cetaceans in the Brazilian Amazon show sustained, profound population declines over two decades

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ABSTRACT:

Obligate river dolphins occur only in the rivers of Asia and South America, where they are increasingly subject to damaging pressures such as habitat degradation, food competition and entanglement in fishing gear as human populations expand. The Amazon basin hosts two, very different, dolphins-the boto or Amazon river dolphin (*Inia geoffrensis*) and the smaller tucuxi (*Sotalia fluviatilis*). Both species have wide geographical ranges and were once considered to be relatively abundant. Their IUCN Red List conservation status of Data Deficient (DD), due to limited information on threats, ecology, population numbers and trends, did not initially cause alarm. However, the development of dolphin hunting to provide fish bait at around the beginning of this millennium broadly coincided with the onset of a widespread perception that numbers of both species were in decline. Consequently, the need for population trend data to inform conservation advice and measures became urgent. This paper presents a 22-year time series of standardised surveys for both dolphins within the Mamirauá Reserve, Amazonas State, Brazil. Analysis of these data show that both species are in steep decline, with their populations halving every 10 years (botos) and 9 years (tucuxis) at current rates. These results are consistent with published, independent information on survival rates of botos in this area, which demonstrated a substantial drop in annual survival, commencing at around the year 2000. Mamirauá is a protected area, and is subject to fewer environmental pressures than elsewhere in the region, so there is no reason to suspect that the decline in dolphins within the Reserve is more pronounced than outside it. If South America's freshwater cetaceans are to avoid following their Asian counterparts on the path to a perilous conservation status, effective conservation measures are required immediately. Enforcement of existing fishery laws would greatly assist in achieving this.

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