

Inter and Intra-Annual Variations in the Encounter Rates of the Estuarine Dolphin (*Sotalia guianensis*) in the Eastern Coast of Brazil

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The estuarine dolphin (*Sotalia guianensis*) was studied through boat surveys in the Caravelas Estuary and coastal adjacent areas (17°54'S - 39°21'W), eastern coast of Brazil, 2002-2004. The study area was surveyed monthly (3-9 days/month), totaling 238 surveys and 241 groups sighted. Encounter rates (ER) were calculated for each day based on distance traveled by boat divided by total number of individuals sighted. ER variations were tested (through Kruskal-Wallis) both among the three different years and also within each year looking for any seasonal variation. There was no correlation between survey effort and ER. We found no significant differences in the ER within the three years ($p > 0,05$), indicating that dolphins are present year-round without any seasonal variation. Significant inter-annual difference in ER was detected ($p < 0,05$). There was a trend of decreasing ER from 2002 to 2004 (2002 – 0,12 ind/km; 2003 – 0,10 ind/km; 2004 – 0,06 ind/km). Using our research design and ER as an abundance index for this population, we found through a power analysis that negative population trends shall be detected after 10 years of monitoring (0,90 power to detect a 10% negative trend). The decrease in ER of the estuarine dolphins in the Caravelas Estuary may be related with the dredging activities and barge traffic in the area which started in the first semester of 2002. Though better assessment is required, dolphins may be responding either by chronic exposure to human sources of impact, or to alteration in water dynamics of the estuary. The habitat alteration (caused by the excavation of the main channel of communication of the estuary with coastal waters) may ultimately lead to local changes in prey abundance and distribution. Continuous monitoring and further analysis, including a detailed assessment of the influence of environment variables in the ER, are required to test this hypothesis.