

## **Habitat Use and Preferences by *Sotalia guianensis* in the Caravelas Estuary, Eastern Brazilian Coast**

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Habitat use and preferences of the estuarine dolphin (*Sotalia guianensis*)

were assessed in the Caravelas Estuary and adjacent waters, in the eastern Brazilian coast (17°54'S - 39°21'W). Boat cruises were undertaken following routes designed to cover the study area homogeneously. During 238 surveys (2002-2004), 241 groups were sighted. The Arcview 3.1 software was used to create a GIS environment which included the distribution of dolphin sightings, a 5 km<sup>2</sup> quadrats grid, and a TIN model of the study area bottom. Each quadrat was characterized according to environmental variables such as depth, contour index, distance from sand banks, distance from the coastline, distance from coral reefs and riverine water influence. Kernel density was used to identify the core area of dolphins' use and the Neu's method was used to test habitat preference. The core area of dolphin's use was located at the Caravelas river mouth. Dolphins did not use the several classes of environmental variables homogeneously, showing preference for more shallow waters (used range: 0-15 m / preferred range: 0-6 m), closer to sand banks (used range: 0-12 km / preferred range: 0-6 km) and closer to the coastline (used range: 0-12 km / preferred range: 0-5 km). Dolphins also preferred areas with flatter bottoms (lower contour index). Preferred salinity ranged from 35 to 38 ppm, despite dolphins were sighted in waters 10 km inside the river. Although significant, the others variables were not easily interpretable and were probably of lower biological importance, pending a multivariate assessment. Dolphins used a wide range of habitat types but the Caravelas river mouth seems to propitiate better conditions for foraging strategies or concentration of prey. Intense barge traffic and dredging activities occurring inside the core areas of dolphins' use raises concern about possible negative effects on this population, and reinforce the need for long-term monitoring.