



## Traditional knowledge of artisanal Fishers and *Sotalia guianensis* (Van Bénédén, 1864) (Cetacea, Delphinidae) in the Extractive Reserve Baía do Tubarão (Brazilian Amazon coast)

Carlos Henrique Marinho dos Santos Filgueira<sup>a,b</sup>, Camilah Antunes Zappes<sup>c</sup>,  
Marcelo Derzi Vidal<sup>d</sup>, Jorge Luiz Silva Nunes<sup>a,b,\*</sup>

<sup>a</sup> Programa de Pós Graduação em Biodiversidade e Conservação, Universidade Federal do Maranhão, Av. dos Portugueses, 1966, Bacanga, São Luís, MA, 65080-805, Brazil

<sup>b</sup> Laboratório de Organismos Aquáticos, Departamento de Oceanografia e Limnologia, Universidade Federal do Maranhão, Av. dos Portugueses, 1966, Bacanga, São Luís, MA, 65080-805, Brazil

<sup>c</sup> Departamento de Geografia de Campos, Instituto de Ciências da Sociedade e Desenvolvimento Regional, Universidade Federal Fluminense, Rua José do Patrocínio, 71, Centro, Campos dos Goytacazes, RJ, 28010-385, Brazil

<sup>d</sup> Centro Nacional de Pesquisa e Conservação da Sociobiodiversidade Associada a Povos e Comunidades Tradicionais, Instituto Chico Mendes de Conservação da Biodiversidade, Rua das Hortas, 223, Centro, São Luís, MA, 65020-270, Brazil

### ARTICLE INFO

**Keywords:**  
Conflicts  
Guiana dolphin  
Local ecological knowledge  
Threats.

### ABSTRACT

The traditional knowledge of artisanal fishers is an important tool for the conservation of cetaceans, since these actors, due to the constant contact with these animals, are able to build a solid knowledge of natural history based on direct coexistence. This study aimed to investigate the traditional knowledge of artisanal fishers in relation to the Guiana Dolphin (*Sotalia guianensis*) and to identify potential conflicts between the species and fishing in the Extractive Reserve Baía do Tubarão, on the Brazilian Amazon coast. Ethnographic interviews, addressing questions on the morphological and behavioral characteristics of the Guiana Dolphin and the occurrence of conflicts between fishing and this dolphin were carried out with 113 fishers from six fishing communities. All respondents are male, with a predominant age range of 36–45 years (34.51%). Fisheries are carried out mainly on board motor vessels (84.1%; n = 95), using gillnet as the main fishing gear. Most fishers (70.8%; n = 80) identified *S. guianensis* as one of the cetaceans species occurring in the region. The communities presented a significant difference in their description of the Guiana Dolphin's behavior ( $p = 0.0007$ ). A total of 27.4% (n = 31) of the respondents reported accidental capture by gill nets, and 6.45% (n = 2) of these reported using the carcasses as bait to capture sharks. Although few fishers have mentioned the use of carcasses as bait, this behavior can be harmful to the Guiana Dolphin population on the Brazilian Amazon coast if it becomes common. The information presented in this study can contribute to elaborate strategies to maintain the Guiana Dolphin population, and facilitate the dialogue between traditional fishing communities, research institutions, and environmental management bodies, in order to fill gaps in scientific knowledge.

### 1. Introduction

Brazil has approximately one million artisanal fishers, who carry out their activities in the coastal region due to the low autonomy of the vessels and the use of simple fishing equipment (Monteles et al., 2010; MPA, 2015). These fishers have traditional knowledge of the environment, which was acquired with daily living and experiences acquired

among generations (Ruddle and Davis, 2011). Such knowledge can assist in species conservation strategies, allowing the partnership between fishers, researchers, and public managers (Ruddle and Davis, 2011; Abreu et al., 2017; Cantanhêde et al., 2018; Martins et al., 2018).

In the Extractive Reserve Baía do Tubarão, state of Maranhão, on the Brazilian Amazon coast, Guiana Dolphin (*Sotalia guianensis* van Bénédén, 1864) occurs next to a Federal Protected Area used by

\* Corresponding author. Programa de Pós Graduação em Biodiversidade e Conservação, Universidade Federal do Maranhão, Av. dos Portugueses, 1966, Bacanga, São Luís, MA, 65080-805, Brazil.

E-mail address: [jorge@ufma.br](mailto:jorge@ufma.br) (J.L. Silva Nunes).

<https://doi.org/10.1016/j.ocecoaman.2021.105700>

Received 7 May 2020; Received in revised form 28 January 2021; Accepted 6 May 2021

Available online 8 June 2021

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