

Analysis of diving behaviour of a solitary male bottlenose dolphin in the inshore waters of Galicia (Spain).

Bernal Shiray, J.A (1), Díaz López, B. (1), Méndez Fernández, P. (2), Bilbao Prieto, A. (1). and Díaz D'A Silva, J.I. (3).

(1) *Bottlenose Dolphin Research Institute – BDRI – Via A. Díaz N°4, Golfo Aranci 07020 (SS) Italy.* (2) *Coordinadora para o Estudio dos Mamíferos Mariños - C.E.M.MA, Apdo. 156 – 36380, Gondomar, Spain.* (3) *Sociedade Galega de Historia Natural – S.G.H.N – Apdo. 356 – 15401 Ferrol, Spain.*

ABSTRACT

A solitary male Bottlenose Dolphin was first reported in Galician waters (Spain) on 2003, in Ferrol firth. The presence of the dolphin could generate considerable public interest, creating a situation of potential risk to the dolphin. The first stage to mitigate the risk of disturbance to the dolphin is the evaluation of its nature to describe in which way the human presence can influence on bottlenose dolphin's behaviour. For marine mammals, diving behaviour should reflect a species' ecology: how they use the water column should be influenced by a variety of factors. In this study we verified the importance in behavioural analysis on bottlenose dolphins through the direct observation of respiratory patterns. From April to August 2005 we studied the diving behaviour of a bottlenose dolphin in Ferrol waters with direct observations from land based points. We analysed the ethological aspects of respiration events in order to detect changes in diving behaviour caused by human presence. A total of 4251 dive intervals were recorded during 49.3 hours of respiration samples distributed in 1072 respiratory sequences. The mean duration of dives was 41.79 seconds (SD=55.6, range=1-375). The most common respiration pattern was type B-2. During the study correlation was not found between duration of dives and number of boats in the area, but duration of dives was significantly higher in presence of boats. Bottlenose dolphin at Ferrol typically surface in five distinctive different ways prior to diving: regular dive, fast surface, tail stock, flukes up and "other" dives (that includes full leap, breach and spy-hope). Regular dive was the dominant dive type for all activities and moments. Mean dive time varied significantly by dive type and behaviour. This method of passive tracking represents a useful tool to assess solitary bottlenose dolphins to different kinds of human-caused interference.