

## POPULATION ESTIMATION AND SURVIVAL RATE OF LONG-FINNED PILOT WHALES (*GLOBICEPHALA MELAS*) IN THE STRAIT OF GIBRALTAR AND INTERACTIONS WITH THE MARITIME TRAFFIC

Verborgh, P. (1), De Stephanis, R. (1), Pérez, S. (1), Sanchez, A. (1) and Guinet, C. (2)

(1) CIRCé Cabeza de Manzaneda 3, Pelayo, 11390 Algeciras, Cadiz, Spain; (2)CEBC-CNRS, 79360 Villiers-en-Bois, France

The distribution of long-finned pilot whales in the Strait of Gibraltar is analysed using GAMS (7521km sailed and 113 sightings) and the results shows that they are situated on the routes of 91009 cargos and ferries that crosses the Strait every year. They are then exposed to risks of collisions and probably also acoustic and physical disturbances. They are also the main target of the whale watching companies (13 boats). The aim of this study is to estimate the population and survival rate of long-finned pilot whales using photo-identification. Closed population models were applied using the program CAPTURE to estimate the population and the Cormack-Jolly-Seber model was used to estimate survival rate with the program MARK. A total of 8111 pictures representing 15 178 individual pilot whales were analysed. Between 1999 and 2005, 210 marked pilot whales have been identified in the catalogue. Corrected population estimations during summer for 1999 is 270 (95% CI: 216-376), 2000 is 249 (95% CI: 218-307), 2001 was not included for lack of data, 2002 is 259 (95% CI:202-380), 2003 is 270 (95% CI:206-415), 2004 is 267 (95% CI:238-330) and 2005 is 263 (95% CI:231-319). The survival rate of adults between 1999 and 2005 is estimated at 0.979 (95% CI: 0.941-0.993) which is a life span of around 48 years. The same individuals have been observed all year round and from year to year which strongly suggests that there is a resident population of long-finned pilot whales in the Strait of Gibraltar. So far, the adult population does not seem to suffer great mortality. However, it is important to follow the population in the long term as a new important harbour is in construction on the Moroccan coast which will increase the passage of ferries and fast-ferries on the distribution area of the long-finned pilot whales.