

AN ASSESSMENT OF THE AMOUNT, DISTRIBUTION AND SOCIAL ORGANIZATIONS OF KILLER WHALES (*ORCINUS ORCA*) IN THE STRAIT OF GIBRALTAR

BUISSON, L. (1), DE STEPHANIS, R. (2), GUINET, C. (3)

(1,3) CEBC-CNRS, 79360 Villiers-en-Bois, France; (2) Circé Cabeza de Manzaneda³, Pelayo, 11390 Algeciras, Cadiz, Spain

Sightings of killer whales have been reported in the area of the Strait of Gibraltar for more than 500 years. This area is important location for bluefin tuna (*Thunnus thynnus*) fisheries and killer whales were always observed interacting with these fisheries. A study of photographically identifiable individual killer whales was undertaken in springs and summers from 2001 to 2004, and a total of 25 whales were photo-identified. No new individuals - except newborns - have been photoidentified since 2003. These 25 whales are divided into two groups. Nine of them were only sighted during the spring in interaction with the trap net of Barbate when tuna is entering the Mediterranean Sea to breed. The 16 other killer whales were only sighted during summer interacting with the drop line fishermen in the centre of the Strait. All these 25 whales seem to be, at least seasonally, specialized in the tuna hunting and adapt their foraging location according to the migratory behaviour of this prey. The social interaction of the 16 summer-killer whales was investigated using an association index analysis. Social structure is proved to be complex because all the individuals are bonded with each others. However this study reveals three stable matriline composed of an adult female and two of her juvenile and/or adult offspring. Two of these matriline were always seen together and we can assume that both adult females are closely related. In addition, new-born appeared strongly associated with their mother during their first year and young juveniles exhibited a strong affinity between each others spending more time together than with their own mother. The other bonds tend to be more dynamic and ephemeral.