

POPULATION STATUS, SOCIAL ORGANISATION AND FEEDING STRATEGIES OF KILLER WHALES (*ORCINUS ORCA*) IN THE STRAIT OF GIBRALTAR

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The red tuna (*Thunnus thynnus*) migrates through the Strait of Gibraltar, entering the Mediterranean Sea in the spring to breed and leaving the Mediterranean Sea in the summer. Tuna are the main fish prey of killer whales in this area. Between 1999 and 2004, 9450 km were sailed around the Strait of Gibraltar, and 58 sightings of killer whales were realised. Killer whales were observed during both spring and summer preying on red tuna or interacting with the tuna fishery. On each encounter, observations were conducted (120 hours) and pictures taken (3500 pictures), including interactions with fishermen and tuna predation by the whales. In spring, two different groups of killer whales (2 and 8 individuals respectively) were observed. Hunting consisted in a long and high speed chase of tuna in shallow waters. The fish were followed for 30 and 45 minutes before being captured. Based on previous data on maximum anaerobic and maximum sustained swimming speeds of red tuna and other tuna species, a likely hypothesis is that killer whales may chase the tuna until they are exhausted. In the summer, killer whales were observed in the western central part of the strait where the red tuna drop line fishery is operating. Interviews to the fishermen revealed that during 2004, 18% of the catches realised by the fishermen were lost because of the killer whales. None of the killer whales seen in the spring were observed in the summer and a total of 16 different individuals were identified. The regular re-sightings of the same individuals suggest that the same groups of animals were interacting with fishermen during all these encounters. The interactions with fishery and depletion of red tuna stocks due to over-fishing are likely to have a negative impact on both killer whales and fishermen in this area.