

ABSTRACT SUBMISSION FORM (MANDATORY)

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(5) Abstract title:	ARE THE INTERACTIONS WITH TUNA FISHERIES A NEGATIVE ISSUE FOR THE KILLER WHALES IN THE STRAIT OF GIBRALTAR?
(6) Abstract:	Killer whales have been described in the Strait of Gibraltar associated with tuna fisheries for at least 2000 years. Killer whales exhibit two strategies to feed on them. One, exhausting the tunas, chasing them during around 30 minutes, which implicates high energetic investment, and another one interacting with the long line fishery in the central waters of the Strait since the beginning of the 90s. A total of 7730 pictures of dorsal fins of killer whales, taken between 1998 and 2007 in 95 sightings, have been analysed showing the presence of 42 different individuals in the area. During the photo-id sessions, group structure was noted, and the catalogue was analysed with Socprog 3.2, resulting on a total of 5 pods. The temporal relationships were fitted calculating their lagged association rates resulting in a social system based on Rapid Dissociation and Constant Companions. All the pods were seen associated with the tuna exhaustion feeding strategies but 3 of them were also observed interacting with the long line fishery during summer months. Life history parameters (Population survival rate=0.989 (95% IC: 0.941-0.993), birth rate=0.066, mortality rate=0.013, new born survival rate=0,968 (95% IC: 0,811-0,995) of those 3 pods are similar to those observed for resident killer whales in the North Pacific. However the observed population growth rate ($\lambda=1.053$) and birth intervals (4.25 years) are respectively higher and lower compared to the North Pacific resident population. Raising the question of the possible demographic consequences of the interactions between the killer whales and the long line fishery. This interaction might allow them to increase their energetic gain and invest it in reproduction.
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