Loggerhead (*Caretta caretta*) frequency observed in the Spanish surface long-line fishery in the Western Mediterranean Sea during 1989

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The swordfish fishery with surface long lines is a very important activity for the Spanish fleet in the Mediterranean Sea. The total catch of swordfish in Spain in 1989 was of 1132 Tm with a total effort of 7.294.495 hocks. The landings in Alicante during this year were the 37.07% of the total Spanish catches in the Mediterranean. The long liners fishermen usually develope their activity throughout the whole year, increasing it during the spring and summer seasons, working in the area between Gibraltar Strait and 6ºE, although the main fishing area is located south of the Balearic Islands and the Ibiza Channel.

The analysis of the swordfihs catches suggest that more than a 50% of the total catches a year belong to 0+ and 1+ age groups (ZOUROS *et al.*, 1991). The long lines used by the spanish fleet are similar to those used in the last years, but the total catches in 1989 were 628 Tm less than the year before (ICCAT, 1991). On the basis of analysis of daily inquiry among long liner landings in Alicante during 1989, we have obtained the frecuency of accidental catches of Loggerhead in the area located between Gibraltar Strait and 6ºE Southern 41ºN. The total of long-line boats sampled were 60 units.

From the study of accidental catches of Loggerhead made upong the sampling of Alicante, we have estimated a total catch per month (grouped in subareas of 1º x 1º) for the long-line fleet in the Mediterranean. We estimated a number of 15.339 individuals, with a maximum of 5857 turtles in June a minimum of 9 in February.

There is a correlation between total effort and accidental catches of Loggerhead, but the maximum effort if in July, which is not coincident with the higher values of Loggerhead catches. The relationship between Loggerhead catches and surface temperature in this area (MILLER, 1976), shows that the maximum catches are previous to the higher temperature. The analysis of the relation between capture areas and months, allow us to establish the following single migratory schema:

- First catches take place in the area surrounding Mallorca and Ibiza Islands.
- The catches start in March in front of Alicante and Cartagena coastline increasing its abundance in the Balearic Island in the same period.
- By June the populations have disappeared form the Balearic Island. The principal concentration is extended between the Spanish coast and Algeria, within a great band.
- The biggest concentration appears in autumn in the Alboran Sea, being possible to find some small dispersed groups of Loggerhead located in the main capture areas.
- Between November and March, the population is residual in the Western Mediterranean.

Concluding

1. The Western Mediterranean Sea is apparently a nursey ground for *Caretta caretta*.
2. In summer a migration towards the east takes place, along the Argelian coastline.
3. In autum, the population is scarce around the Balearic Island, increasing in the Alboran Sea, probably showing a migration throughout the Gibraltar Strait towards the Atlantic waters.

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