

**EFFECT OF A TWO MONTHS CLOSED SEASON ON MONTHLY CATCHES OF HAKE (*MERLUCCIUS MERLUCCIUS*) AND RED MULLET (*MULLUS SPP*) IN A RESTRICTED AREA OFF THE CATALAN COAST (NW MEDITERRANEAN)**

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Hake (*Merluccius merluccius*) and red mullet (*Mullus spp*) are two of the most valuable fishing resources off the Catalan coast. Monthly catches of these two species undergo seasonal variations, specially marked in the case of the red mullet. During the year, highest hake catches are obtained by late spring and early summer, while highest red mullet catches correspond to late summer and autumn.

The trawling fleet operates five days a week, a maximum of 12 hours at sea per day. As an additional fishing regulation, from 1991 a closed season of a duration of two months was implemented in the southern third of the littoral. This closure affects about 200 vessels (57 000 hp) based in five fishing ports, which represents half of the trawl fleet. The period of closure is not the same every year : May and June in 1991, April and May in 1992, June and July in 1993.

In the hake, highest catches were obtained during the three or four months from the opening of the activity of the trawling fleet after the closure. These months changed depending on the closed season period, the maximum monthly yield corresponding to the month following the end of the closure (July in 1991, June in 1992 and August in 1993). In the red mullet, the time of the year with highest catches was the same during 1990-1993, although the values of the maximum monthly catches were higher in the years with closure.

Both in the case of hake and in the red mullet, monthly catches after that time of the year when highest values are attained have remained at a level similar to that of 1990, year preceding the implementation of a closed season for trawling. In January 1994, hake and red mullet catches were similar to those of the four previous years. Also, it has not been observed a clear tendency of increasing hake and red mullet annual catches from 1990. Apparently, the result of the closure has been to concentrate the catches in a few months just after the closed season rather than bringing a sustained increase of catches during the whole year.

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