
by: J. Mejuto, B. García-Cortés, J. M. de la Serna
Instituto Español de Oceanografía, Spain.

SUMMARY

This paper presents some descriptive plots of the activity of the Spanish longline fleet in the year 1999. As in previous papers requested by the working groups, plots of nominal effort and nominal catch rates by 5x5 degree squares are provided.

RÉSUMÉ

Le présent document donne une simple description graphique de l’activité de la flottille de palangriers de surface espagnols en 1999. Conformément à la pratique déjà établie dans les documents antérieurs qui ont été rédigés à la demande du groupe de travail, on trouvera des graphiques sur l’effort nominal et des taux de capture nominaux, par carrés de 5°x5°.

RESUMEN

Este documento presenta una simple descripción gráfica de la actividad de la flota española de palangre de superficie en 1999. Como se hizo en documentos presentados en años anteriores realizados a requerimiento del grupo de trabajo, se ofrecen gráficos de esfuerzo nominal y tasas de captura nominales, por cuadrículas de 5x5 grados.

KEYWORDS

Swordfish, longline, CPUE.

INTRODUCTION

The purpose of this paper is simply to update the information provided in earlier documents (Mejuto et al., 1992, 1993, 1997, 2000) by including summary plots and descriptions of the activity of the Spanish fleet in 1999.

MATERIAL AND METHODS

The data bases from 1999 reflect the activity of the Spanish surface longline fleet catching swordfish in the Atlantic and the Mediterranean Sea. These data bases include detailed information by 5x5 degree squares of the total activity of the Spanish fleet, including nominal effort (thousands of hooks), and nominal CPUEs in number of fish and weight (kg round weight). The CPUE by size categories were plotted in three size groups. Size group 1: sizes LJ-FL <= 125 cm, Size group 2: sizes 130<= LJ-FL<=165 cm, Size group 5: sizes 170<= LJ-FL. Additional information on methodological bases can be obtained in previous papers.
RESULTS

A total number of 89,737 fishes were sampled in the Atlantic Ocean (North and South), 10,154 in the Mediterranean Sea, 3,655 fishes in the Pacific and 4,094 in the Indian Ocean, during 1999. However, only data from the Atlantic are included in this paper.

Figure 1 shows plots, CPUE in number of fishes and CPUE in round weight, landings in number and weight. As in previous years, we detected a substantial quantitative difference in the CPUE values obtained on either side of parallel 5°N.

The high yields found in the Atlantic areas of more recent access in the South Atlantic are again noteworthy (figure 1). The activity of the fleet known as traditional in the Atlantic is still being carried out almost exclusively in the Atlantic North of 15° North latitude. This fleet has changed its fishing strategy in recent years targeting multi-species. The long distance fleet developed its main activity on the Southern Atlantic stock and in other oceans. Recently some units have introduced a new longline system (“Florida style longline”) including monofilament and light sticks. The differences in CPUEs (in number and weight) between both areas had already been evident from the start of the fishing activity of the Spanish fleet targeting the so-called southern stock. These differences remain when the CPUE data are analysed by quarter as was pointed out in previous papers (Mejuto et al., 1997; 1998, 2000).

However these differences in CPUE had been less evident in CPUE in number for some size ranges (figure 2). Group 1 shows a homogeneous distribution from 50°N to 05°S. The medium sized individuals (Group 2) appear to be distributed quite homogeneously but primarily in reproduction zones in equatorial waters and in areas of the South Atlantic. Additionally, higher CPUEs in group 2 have also been observed in the North West Atlantic close to the Grand Banks which was not clearly evident in previous years. The large sized fishes (Group 5) show more pronounced differences on either side of parallel 5°N.

The plots point out the continuity of the resource from 45° or 50° North latitude to at least 5° or 10° South latitude for some size groups, confirming previous analyses (Mejuto et al., 1997; 1998; 2000). However, we must bear in mind that the available data pertain to only one fleet whose activity in some areas is non-existent or highly limited, thus this continuity could be even greater (Farber, 1988). On the other hand, the fishing strategies of North and South Atlantic fleets are different. The North Atlantic fleet has also been targeting blue shark in recent years, so the CPUEs are affected by the new fishing strategy. A similar pattern was also observed, to some extent, in the South Atlantic fleet in more recent years (SCRS/00/155).

ACKNOWLEDGEMENTS

We would like to thank Manuel Quintans, Enrique Alot, Isabel Gonzalez, Manuel Marin, Enrique Majuelos, Jose L. Gonzalez, among others, for their untiring collaboration and their great efforts in compiling the basic information and updating the data bases used in this paper. Special thanks to José M. Sierra for his assistance with the hardware. This research was made possible by funds from the project P-4.03 of the Instituto Español de Oceanografía.
LITERATURE CITED


Figure 1. Landing per unit of effort in number of fish and in kg round weight per thousand hooks and landing in number and weight, per 5º x 5º degrees square, of the Spanish longline fleet for the year 1999.
**Figure 2.** Nominal effort (thousand hooks) and nominal CPUE by size groups (in number of fish) of the Spanish longline fleet, for the year 1999. Size group 1: LJFL<130. Size group 2: 130<=LJFL<=165. Size group 5: 170<=LJFL.