ACTIVITY OF THE SPANISH SURFACE LONGLINE FLEET CATCHING SWORDFISH (Xiphias gladius) IN THE YEAR 1998

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

ABSTRACT

This paper presents some descriptive plots of the activity of the Spanish longline fleet in the year 1998. As in previous papers, plots of nominal effort and nominal catch rates, by 5x5 degree squares are provided.

RÉSUMÉ

Le présent document décrit de façon graphique l’activité de la flotte palangrière espagnole pendant l’année 1998. Comme dans les travaux précédents, des représentations graphiques du taux de capture nominale et d’effort nominal par carré de 5°x5° sont fournies.

RESUMEN

Este documento presenta una simple descripción gráfica de la actividad de la flota española de palangre de superficie en 1998. Como se hizo en documentos presentados en años anteriores, se ofrecen gráficos de esfuerzo nominal y tasas de captura nominales, por cuadrículas de 5x5 grados.

INTRODUCTION

Data on the description of the fisheries has become less demanded in many working groups and some times is even considered as waste. However, experience shows that this descriptive information is an important tool for the correct interpretation of several parameters commonly used as indicators of these fisheries trends as CPUEs. Precise description of fisheries are very important to define accurate models for assessment. The purpose of this paper is simply to update the information provided in earlier documents (Mejuto et al., 1992; Mejuto et al., 1993; Mejuto et al., 1997; Mejuto et al., in press.) by including plots and descriptions of the activity of the Spanish fleet in 1998.

MATERIAL AND METHODS

The data bases from 1998 reflect the activity of the Spanish surface longline fleet catching the swordfish in the Atlantic, Mediterranean Sea and Pacific. Data from the Indian Ocean was not included in this paper. 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 about methodological bases can be obtained in previous papers.
RESULTS

A total number of 175,000 fishes were sampled in the Atlantic Ocean and Mediterranean Sea and 4500 fishes in the Pacific (preliminary data), during 1998.

Figure 1 shows plots of nominal effort (1a), CPUE in number of fishes (1b) and CPUE in weight (1c). We detect a substantial quantitative difference in the CPUE values obtained on either side of the parallel 5°N.

The high yields found in the Atlantic areas of more recent access are again noteworthy. 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 large distance fleet developed the main activity on the Southern Atlantic stock and other oceans.

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 (Mejuto et al., 1997; Mejuto et al., 1998). When the CPUE data are analyzed by quarter (Fig. 2 and 3), similar conclusions may be obtained.

However these differences in CPUE had been less evident in CPUE in number by size ranges (Fig. 4). Group 1 shows a homogeneous distribution from 50°N to 5°S, medium (Group 2) and large (Group 5) sized individuals appear to be distributed primarily in reproduction zones in equatorial waters and in areas of the South Atlantic. Only the “large fishes” group shows differences on either side of parallel 5°N.

Our findings point to a 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; Mejuto et al., 1998). 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). In other hand, the fishing strategy of North and South Atlantic fleets are different. The North Atlantic fleet is targeting also blue shark in the most recent years, so the CPUEs are affected by the new fishing strategy. In this sense, these available data bases from the ICCAT combined with those from other fleets could offer an overall view which could be of great interest.

ACKNOWLEDGEMENTS

We would like to thank Manuel Quintans, Enrique Alot, Isabel Gonzalez, Manuel Marin, Jose A. Castro, 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. This paper was done with funds of the project IEO P-4.03.

LITERATURE CITED


Figure 1. Nominal fishing effort, in thousands hooks (1a), nominal catch rates (CPUE) in number of fish (1b) and weight (kg round weight) (1c), of the Spanish surface longline fleet, for the year 1998.
Figure 2. Nominal catch rates (CPUE) in number of fish in thousands of hooks of the Spanish surface longline fleet for the year 1998, by quarters.
Figure 3. Nominal catch rates (CPUE) in weight (kg rogn weight), for the year 1998 and by quarters.