ACTIVITY OF THE SPANISH SURFACE LONGLINE FLEET
CATCHING SWORDFISH (XIPHIAS GLADIUS) IN THE
ATLANTIC OCEAN IN 2005

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SUMMARY

This paper presents data on catches, nominal effort and nominal catch rates in 5x5 degree square formats of the activity of the Spanish surface longline fleet targeting swordfish (Xiphias gladius) carried out in 2005 in waters of the Atlantic (including the Mediterranean areas), Indian and Pacific Ocean. Graphics and a descriptive summary are also provided. The nominal catch in round weight of swordfish taken in the ICCAT convention area by Spanish surface longliners during 2005 was 10.913 tons in the Atlantic Ocean and 760 tons in the Mediterranean. Nominal catches in the Indian and Pacific Oceans were 5.079 and 6.212 tons, respectively. Additionally, data on nominal catch rates of swordfish for the Atlantic areas are updated for the period 1986-2005.

RÉSUMÉ


RESUMEN

Se presentan datos de captura, esfuerzo nominal y tasas de captura en formato de cuadrículas de 5x5 grados sobre la actividad de la flota española de palangre de superficie dirigida al pez espada (Xiphias gladius) durante el año 2005 en áreas del de los océanos Atlántico (incluyendo áreas del Mediterráneo), Índico y Pacífico. Gráficos y resúmenes descriptivos son también suministrados. La captura nominal de pez espada en las áreas de la Convención de ICCAT realizadas por los palangreros españoles de superficie durante el 2005 fueron 10,913 t en el Atlántico y 760 t en el Mediterráneo. Las capturas nominales en el Océano Índico y Pacífico fueron 5,079 t y 6,212 t respectivamente. Adicionalmente, se actualiza información de tasas de captura nominales de pez espada para las áreas del Atlántico durante el periodo 1986-2005.

KEY WORDS

Swordfish, longline, Spanish fleet, CPUE

1. Introduction

This paper includes plots and descriptive information of the activity of the Spanish surface longline fleet during the year 2005. Scientific statistical information on the activity of the commercial Spanish longline fleet is routinely reported to different Regional Fisheries Organizations (such as ICCAT, IOTC, IATTC and WCPFC) for different scientific purposes such as the correct interpretation of the indicators to define accurate models for assessment within these multilateral organizations. This document updates previous papers in order to describe the annual activity of the Spanish longline fleet.

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2. Material and methods

The databases from the year 2005 reflect the fishing activity of the Spanish surface longline fleet (LLHB) catching swordfish in all oceans and areas, with a more detailed overview from the Atlantic and Mediterranean Sea areas (ICCAT convention areas). These databases include information by 5x5 degree squares on swordfish catch, nominal effort (thousands of hooks), nominal CPUEs of swordfish in number of fish and weight (kg round weight) per thousand hooks and size categories, representing the complete activity of this fleet for scientific purposes and reported as ICCAT Task II data. However, additional information from the Pacific and Indian Oceans was also plotted in this paper to provide a broader overview, even though such areas are out of the ICCAT convention area.

The nominal CPUE in weight by quarter (Q) is also included (Q1: January, February, March; Q2: April, May, June; Q3: July, August, September; Q4: October, November, December). The nominal CPUE in number by size category (CAT) was plotted defining three size groups. Size CAT 1: sizes LJ-FL <= 120 cm., Size CAT 2: sizes 125 cm<= LJ-FL<=160 cm., Size CAT 3: sizes > 160 cm LJ-FL. Additional information on methodological bases can be found in previous papers (Mejuto et al. 1997, 1999, 2000, 2001, 2003, 2004, 2005, 2006, 2007). Information on overall nominal catch rates per year (number of fish and kg round weight, per thousand hooks sets) were also calculated for the North and South Atlantic stocks for the period 1986-2005.

3. Results

Figures 1 and 2 show plots by 5°x5° squares of landings in number of swordfish and landings in kg of round weight of the Spanish fleet during the year 2005. For general comparative and broader descriptive purposes within the different RFOs, some annual aggregated information on the activity carried out in the Indian and Pacific Oceans was also included.

During the year 2005 the total surface longline Atlantic swordfish catches were 10,913 tons, 760 tons in the Mediterranean Sea, 5,079 tons in the Indian and 6,212 tons in the Pacific (Figure 3). Other minor longline styles are also fishing swordfish in the Mediterranean Sea but this information was not included. A total number of 67,248 swordfishes were size-sampled individually in the Atlantic Ocean, 7,517 in the Mediterranean Sea, 19,443 in the Indian Ocean and 31,592 in the Pacific Ocean.

The overall nominal CPUE in kg of round weight per thousand hooks obtained by the Spanish swordfish fishery in the year 2005 by ocean was 398.8 kg in the North Atlantic and 583.0 kg in the South, 127.6 kg for the Mediterranean, 964.4 kg for the Indian Ocean and 726.7 kg for the Pacific (Figure 4).

Figure 5 shows plots by 5°x5° squares of nominal effort, CPUE in number and CPUE in round weight obtained during 2005. As years before a low nominal CPUE obtained in the NE Atlantic areas contrasts with the high catch rates occurring in a large number of squares of the SW Atlantic, Indian and Pacific Oceans. We must keep in mind that the North and South Atlantic fleets are now targeting swordfish and blue shark during some sets, trips or in some areas (Mejuto & de la Serna 2000).

Figure 6 shows nominal CPUEs in kg round weight by thousand hooks obtained by quarter and 5°x5° squares in the year 2005 only in the Atlantic and Mediterranean areas. The highest CPUE in weight seem to be found in both the North and South Atlantic during Q1 and Q4.

The catch rates (CPUE) in number of fishes per size category for the year 2005 and 5°x5° squares are shown in Figure 7. The values obtained by area for the three size categories defined were similar to those obtained years before, with the highest values in the North Atlantic and Mediterranean Sea for CAT1. High values were also observed in both the North and South Atlantic for CAT2, with lower values in the Mediterranean areas. The highest values of CAT3 were observed in South Atlantic areas.

The overall nominal catch rates of swordfish per year, in number and in weight (kg round weight), for the period 1986-2005 are shown in figure 8. The highest values were obtained in the North and South Atlantic during the most recent period after 1999. The South Atlantic shows during most recent years values as high as in the 80’s.

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References


Figure 1. Number of swordfish landed by the Spanish surface longline fleet by 5°x5° squares in the year 2005.

Figure 2. Swordfish landings in kg of round weight carried out by the Spanish surface longline fleet by 5°x5° squares in the year 2005.

Figure 3. Swordfish landings in kg of round weight carried out by the Spanish surface longline fleet by swordfish stocks in the year 2005.
Figure 4. Overall nominal CPUE in kg of round weight of swordfish landed per thousand hooks set by the Spanish surface longline fleet by swordfish stock/s in the year 2005.
Figure 5. Nominal fishing effort in thousands of hooks (A), nominal CPUE in number (B) and nominal CPUE in kg of round weight (C) by 5°x5° squares of swordfish landed per thousand hooks set by the Spanish surface longline fleet in the year 2005.
Figure 6. Nominal CPUE in kg of round weight of swordfish landed by thousands of hooks set by the Spanish surface longline fleet by quarter (Q) and 5°x5° squares during 2005 in the Atlantic Ocean and Mediterranean Sea.
**Figure 7.** Nominal CPUE in number of swordfish by size class (cm, LJFL): CAT1 < 125 cm; CAT2:125-160 cm; CAT3>160 cm; by 5°x5° squares during 2005 in the Atlantic Ocean and Mediterranean Sea.
Figure 8. Nominal catch rates in number (A) and in kg round weight (B) of swordfish landed by thousands of hooks set by the Spanish surface longline fleet in the Atlantic Ocean (N= North, S= South) for the period 1986-2005.