



**GENERAL FISHERIES COMMISSION
FOR THE MEDITERRANEAN**



**COMMISSION GÉNÉRALE DES PÊCHES
POUR LA MÉDITERRANÉE**

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**GENERAL FISHERIES COMMISSION FOR THE
MEDITERRANEAN**

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**WORKING GROUP ON STOCK ASSESSMENT OF SMALL PELAGIC
SPECIES**

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PROVISIONAL LIST OF ABSTRACTS

Stock assessment of anchovy and sardine in the GSA17

ADRIAMED working group on small pelagics

Stock assessment of *Sardina pilchardus* in Geographical Sub-Area 4 - Algerian Mediterranean

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Sardine (*Sardina pilchardus*) is the main target species of the purse seine fleet in the Algerian Mediterranean. The landings of this species represent around 58% of the total small pelagic landings. Other accompanying species with lower economical importance are also caught at depths from 15 to 30 m such as: Anchovy, mackerel, and round sardine. The method used was LCA, applied to annual length frequency distributions for the period 2007-2010 collected from commercial landings. Data concerning the exploitation of catches were analysed by means of two software packages: i) FiSAT (2005), which we used to determine the essential parameters for the study of dynamics; and ii) VIT (2000), the most suitable tool for the stock assessment based on the application of Length Cohort Analysis (LCA) together with a Yield per Recruit Analyses (Y/R) based on short series of data.

Geographical distribution and biomass estimation of small pelagic species of the Tunisian coasts

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Since 1998, we regularly carry out acoustic survey for the biomass evaluation of small pelagic species of commercial interest. The available data show fluctuations and appear to be cyclical. Sardine and horse mackerel are the most abundant species (70%).

Structures des tailles de trois espèces de petits pélagique, sardine, sardinelle et anchois

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Evaluation of anchovy biomass in FAO GSA 18 by means of acoustics and daily egg production methodology

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The cooperation between CNR-ISMAR of Ancona and IBM of Kotor started in 2002 with the aim to apply the acoustic methodology for the evaluation of small pelagic fish biomass in Montenegro waters. Since then acoustic surveys were repeated in July 2004, while in August 2005 simultaneously with acoustic method eggs and larvae survey was introduced for anchovy SSB evaluation. In 2008 survey was extended to Albanian territorial waters (eastern GSA 18). In 2010 acoustic and eggs and larvae surveys were conducted both in eastern and western GSA 18 with the aim to have a picture as much complete as possible. The results from these recent acoustic and DEPM surveys in 2008 and 2010 are reported.

Stock assessment of Sardine and Anchovy in GSA 06

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Preliminary analysis for identification of priority species of small pelagic shared stocks in GSA01 and GSA03 (Alborán Sea)

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Small pelagic resources and particularly sardine (*Sardina pilchardus*) and anchovy (*Engraulis encrasicolus*) represent an important fishery activity for the countries bordering the Alboran Sea. This paper aims at contributing to the identification of priority species of small pelagic shared stocks in GSA01 and GSA03 (northern and southern Alboran Sea GFCM regions) for carrying out joint stock assessments and promoting new management measures that would allow the sustainability of the resources and its exploitation. The WG on small pelagic shared stocks met twice during 2011 progressing in analysing the available data on the stocks and its exploitation and building a common data base. Moreover a comparative analysis on sardine landings data from 2003-2010 in GSA01 and GSA03 was carried out explaining that the exploitation pattern in sub-areas (GSAs 01 and 03) is different but the total length-frequency distribution of sardine exploited by each country appears to be similar. A tentative in applying a LCA analysis of the Moroccan and Spanish data on sardine using different biological parameters and with the VIT software was unsuccessful but orientated for future works of the WG.

Situation de l'exploitation de la pêcherie des petits pélagiques en Méditerranée marocaine and état de stock de la sardine (*Sardina pilchardus*)

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Rapport succinct sur le stock de la sardine de la GSA 03: la pêcherie des petits pélagiques est une composante importante de la pêche côtière au niveau de la Méditerranée marocaine. Pour cette pêcherie, l'activité de pêche est exercée uniquement par des senneurs marocains ciblant principalement la sardine, l'anchois et le chinchard, tandis que la bogue et la sardinelle constituent des captures accessoires. Pour plusieurs décennies, la sardine a constitué entre 50 et 70% de l'ensemble des débarquements des petits pélagiques de la Méditerranée marocaine. Toutefois, la production de la sardine a connu une diminution importante au cours des dernières années, en raison surtout de l'augmentation de l'effort de pêche exercé par la flotte sardinière sur cette ressource. La production de la sardine en Méditerranée marocaine, varie entre 10 000 et 25 000 tonnes/an. Entre les années allant de 2000 à 2010, la production moyenne annuelle de sardine est d'environ 12 000 tonnes. Les premiers exercices menés pour l'évaluation de l'état du stock de la sardine, basée sur l'analyse des fréquences de tailles (LCA) moyennant le logiciel VIT (Lleonart et Salat, 1997), a été conduite sur une moyenne des données des années 2000 à 2010. Les résultats montrent que la pêche est exercée essentiellement sur des individus adultes et l'analyse des rendements par recrue indique un état de pleine exploitation de cette ressource et qui tend plus vers un état de sur-exploitation.

Towards the assessment of small pelagic fish abundance in the entire Adriatic Sea by means of acoustic methodology

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The evaluation of small pelagic fish biomass in the Adriatic Sea started more than three decades ago; in fact since 1976 the north-western part of the Adriatic Sea was investigated by means of acoustic methodology by CNR-IRPeM of Ancona (now ISMAR). The trait of Osimo (1978) constrained acoustic investigations both for Italy and Yugoslavia from territorial waters to the Mid Line that divides Adriatic Sea in two almost equal parts. Acoustic surveys in the western side of the Adriatic Sea were extended southwards since 1987. In recent years due to the collaboration among CNR-ISMAR (Italy), FRIS (Slovenia), IBM (Montenegro) and the Laboratory of Fisheries and Aquaculture, Agricultural University of Tirane (Albania) echosurveys are conducted along the coasts of these four countries. Moreover since 2003 the Institute of Oceanography and Fisheries of Split (Croatia) is conducting acoustic surveys in the eastern side of Adriatic Sea (GSA 17) in coordination for methodology and sampling period with CNR-ISMAR. At present all the Adriatic Sea is monitored in the warm season by two research vessels: R/V Dallaporta (Italy) and BIOS DVA (Croatia). The results from 2010 surveys are presented and discussed.

Stock assessment forms for *Sardina pilchardus* and *Engraulis encrasicolus* in GSA16

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