Introduction

One of the most important human impacts on marine ecosystems is bottom trawling, a fishing technique that causes habitat disturbances, the removal of target and non-target species and the return to the sea discarded species (Dayton et al., 1995, Jennings and Kaiser, 1998, Auster and Langston, 1998). Bottom-trawls physically disturb both the habitat as it is dragged across the seafloor (Thrush et al., 1999) and the species living on or near the seafloor. The low selectivity of this fishing gears causes high amounts of discards (Bellido et al., 2011, García de Vinuesa et al., 2012).

A Spanish bottom-trawl shrimp fishery has been traditionally developed in West African fishing grounds, being especially relevant in Mauritanian waters, due to their high productivity.

Objectives

The objectives of this study were:

• To identify the communities impacted by this fishery.
• To analyze the spatial dynamic of the fishery.
• To study the catch composition in this fishery for both the retained fraction and the discards fraction.

Material and methods

In compliance with the EU “Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy”, Spain should perform discards samplings of the Spanish shrimp fishery developed in West Africa. Since 2010, the Oceanographic Institute of Cadiz belonging to the Spanish Institute of Oceanography has developed a “Program of Scientific Observers onboard” in order to study, among other subjects, the discards produced by this fishery.

This work presents the results of the analysis of discards produced by this fleet in Mauritanian waters through the scientific observations carried out in this fishing ground during one annual cycle (2014).

Weights of total catches, retained catches and the volume of discards were recorded as hauls grouped by depth strata. Thirty different communities identified: Shelf - LAN, Upper Slope US and Deep Slope DS.

Bycatch accounts for 78.5% of total catches discarded and removed to the sea 357 discard species identified.

Conclusions

Discards accounts for 78.5% of catches of this fishery.

A number of 357 demersal and benthic species (fish, crustaceans, cephalopods and other invertebrates in order of abundance) were identified in the discards.

Three different communities identified: LAN-Shelf target species P. notialis depth strata 30 m–60 m, GAM-Upper Slope target species P. longirostris depth strata 140 m–310 m and ALI-Deep Slope target species A. Varidens depth strata 610 m–950 m.

Volume and species composition of by-catch and discards is strongly influenced by depth. Percentage of discards and discard index decrease with depth. Percentage of discards and discard index decrease with depth.

Main yields for P. longirostris, in the upper slope (stratum US-GAM).

References


This project has been cofunded by the EU through the European Maritime and Fisheries Fund (EMFF) within the National Program of collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.