

RETAINED AND DISCARDED CATCHES FROM COMMERCIAL BOAT SEINES IN GREEK WATERS

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Abstract

Observer-based estimates of the quantities of discarded and retained catches from the commercial boat seine in Greek waters are presented. A total of 112 species were identified in catches sampled between October 2000 and May 2001 in three areas (Ionian Sea, Cyclades Islands, Pagassitikos Gulf). The catch composition varied significantly between the areas. The most abundant commercial species were bogue (*Boops boops*), pilchard (*Sardina pilchardus*), picarel (*Spicara smaris*), common squid (*Loligo vulgaris*), blotched picarel (*Spicara flexuosa*) and horse mackerel (*Trachurus mediterraneus*). The most abundant discarded species were bogue, damselfish (*Chromis chromis*), rainbow wrasse (*Coris julis*) and common pandora (*Pagellus erythrinus*).

Keywords: boat seine, catch, discards, by-catch, Greece

Introduction

In Greek waters the annual landings of boat seiners are estimated to represent 5.8% and 4.5% of the annual total fisheries production and value, respectively. The boat seine catch is dominated mainly by picarel (46.6%) and, to a lesser degree, by pilchard (14.1%) and bogue (11.1%) (National Statistic Service of Greece).

Boat seines are considered to have a negative impact on stocks since the fishing activity takes place in coastal areas in the nursery grounds of many commercial species and in some areas the gear is fished on *Posidonia* sea beds which are considered to be vulnerable to the action of the gear (EC regulation 1626/94). There are few studies on the impacts of this gear in Greek waters. In this study, funded by the Greek Ministry of Agriculture, observers were used to quantify the catches of boat seines operating in three areas in Greece and to evaluate the impact of this fishing gear in terms of by-catch and discards.

Materials and methods

Scientific observers accompanied commercial boat-seine crews on 17 fishing trips between October 2000 and May 2001, covering the entire fishing period, in three regions of Greece: Ionian Sea (5 trips), Aegean Sea-Cyclades Islands (6 trips) and Pagassitikos Gulf (6 trips) (Fig. 1). The mesh size used was 16 mm and fishing took place in depths 15-47 m. The total catch was sorted into the retained and discarded components by the fishermen. The total weights and numbers of each individual species were recorded. Mean catch rates per haul were calculated for each month. One-factor analysis of variance was used to test for differences between months in weights and quantities of retained and discarded catches.

Results and discussion

A total of 112 species (94 teleosteans, 6 elasmobranchs, 11 cephalopods and 1 crustacean) distributed in 48 families were identified in catches throughout the survey. A total of 37 families were retained and 38 families were discarded. Only 17 families were solely

retained, 22 were solely discarded and another 27 families were both retained and discarded.

Species were assigned a relative index of abundance according to their mean retained and discarded catch rates per haul. Retained catch rates of bogue, pilchard and picarel in Aegean Sea, were estimated to be greater than 100 individuals per haul, while in the Ionian Sea, only picarel and bogue had estimated retained catch rates greater than 100 individuals per haul. The corresponding species from Pagassitikos Gulf were blotched picarel, horse mackerel and pilchard. Concerning the discarded species, bogue and rainbow wrasse from the Aegean Sea, damselfish from the Ionian Sea and common pandora from Pagassitikos Gulf had estimated rates greater than 100 individuals per haul.

Retained and discarded catch rates varied throughout the survey (Fig. 2), but significant differences between months were reported only for retained catches from the Ionian Sea (P -value = 0.0045).

Ratios of the total numbers discarded to retained were 0.19 in the Aegean Sea, 0.07 in the Ionian Sea and 0.22 in Pagassitikos Gulf. The estimated ratios are considered to be very low for Mediterranean fisheries, and they are generally less than those observed for bottom trawls (about 0.44) (1), for the sole métier (0.26), the sepia métier (0.60) and the hake métier (0.21) in Greek waters (2).

Our results indicated that: a) the proportion of the discarded was low and varied between areas and b) catches of juveniles of commercial species were generally low except for common pandora in Pagassitikos Gulf.

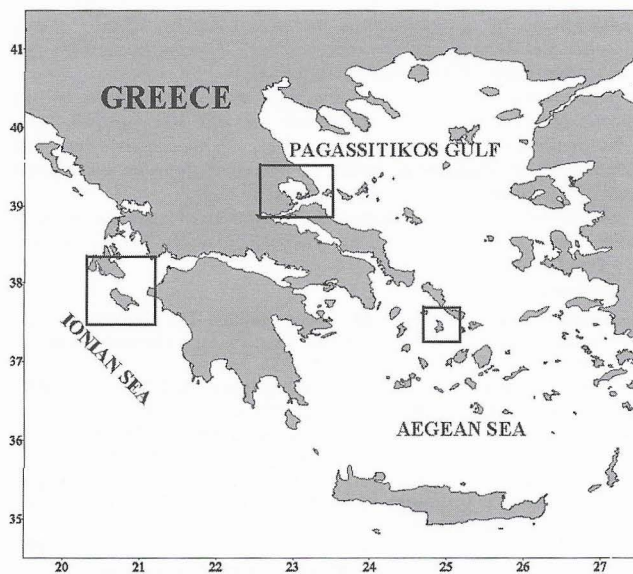


Fig. 1. Map of the sampling areas.

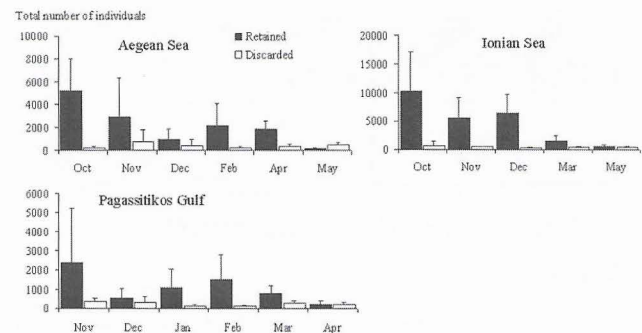


Fig. 2. Mean numbers of retained and discarded total numbers of individuals taken in each season in each sampling area.

References

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