

DOLPHIN BYCATCH IN THE SWORDFISH DRIFTNET FISHERY IN THE AEGEAN SEA

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Abstract

Dolphin bycatch in the swordfish driftnet fishery was examined in the Aegean Sea coast of Turkey, in May and June, 1999 and 2000. In 1999, total 10 bycatches were examined, which were *Stenella coeruleoalba* (7 individuals), *Tursiops truncatus* (2), *Grampus griseus* (1). In 2000, total 9 bycatches were examined, which were *S. coeruleoalba* (6), *T. truncatus* (2) and *G. griseus* (1).

Keywords : Cetacea, Conservation, Aegean Sea

Introduction

The swordfish is one of the commercially important fish species in the Turkish waters. It is caught by longlines, gill nets and harpoons (1). Tokac et al. (2) studied the swordfish fishery in the North Aegean Sea, but did not give information on the driftnets. At present, some 50-60 fishing vessels are known to use driftnets for swordfish in the Turkish Aegean Sea.

Dolphins are considered as globally threatened species in spite of some national and international protection measures. In the Mediterranean, one of the threats is the driftnet due to its non-selectivity, i.e. it entangles any species which are larger than the mesh size (3, 4). In the Aegean Sea, the swordfish driftnet fishery is a relatively new problem for cetaceans and very little studied (5, 6). Thus the aim of our study is to collect basic data and accurate information on the swordfish driftnet fishery and dolphin bycatches in the Turkish Aegean Sea, so that more effective protection measures can be implemented.

Materials and Methods

Monitoring of the bycatch was made on five vessels of 9-14 m in length, in May and June, 1999 and 2000, in the Aegean Sea coast of Turkey, between Marmaris and Fethiye (Fig. 1). The details of fishing trips were recorded and all the bycatches were examined for species, sex and body length.



Fig. 1. The study area for the swordfish driftnet fishery in the Turkish coast of the Aegean Sea

Results and Discussion

Driftnets are set at 18-20 hrs and retrieved at 4-5 hrs in the next morning. The fishing season lasts only two months, May and June. Mesh size of the driftnet used for the swordfish is 240-260 mm and the net is made of nylon polyfilament. The total length of the net is 1000 -1500 m on average and the depth is 4 m. In both 1999 and 2000, 20 boats were counted as operating swordfish driftnet fishery in Fethiye - Marmaris area. The fishing areas were 300- 2500 m deep and 5-9 nmiles from the coasts. The driftnet is set in the depth of 6-7 m in general.

Table 1 shows the list of dolphins incidentally caught by the swordfish driftnet. In 1999 and 2000, 10 and 9 dolphins were caught, respectively.

Table 1. The species, sex, and body length (BL) of the dolphins incidentally caught in the swordfish driftnets in the Aegean Sea.

Year	Species	Sex	BL(cm)
1999	<i>Stenella coeruleoalba</i>	Male	103
	<i>Stenella coeruleoalba</i>	Female	140
	<i>Stenella coeruleoalba</i>	Male	173
	<i>Stenella coeruleoalba</i>	Male	-
	<i>Stenella coeruleoalba</i>	Female	-
	<i>Stenella coeruleoalba</i>	Male	-
	<i>Stenella coeruleoalba</i>	Female	-
	<i>Tursiops truncatus</i>	Male	210
	<i>Tursiops truncatus</i>	Unknown	-
	<i>Grampus griseus</i>	Female	300
2000	<i>Stenella coeruleoalba</i>	Male	150
	<i>Stenella coeruleoalba</i>	Unknown *	-
	<i>Stenella coeruleoalba</i>	Female	200
	<i>Stenella coeruleoalba</i>	Male	150
	<i>Stenella coeruleoalba</i>	Unknown	-
	<i>Stenella coeruleoalba</i>	Female	180
	<i>Tursiops truncatus</i>	Female	220
	<i>Tursiops truncatus</i>	Unknown	-
	<i>Grampus griseus</i>	Male	250

These data showed that *S. coeruleoalba*, *T. truncatus* and *G. griseus* were bycatch dolphin species in the swordfish driftnet fishery and *S. coeruleoalba* was the most influenced species of all. These three species are shown as being under the impact of driftnet fishery in the Mediterranean (4). Our result also reflects the fact that the most common species in the Mediterranean is *S. coeruleoalba* (4). Due to our small sample size, we cannot discuss neither sex nor body length of the bycatch animals.

This is the first and basic study on the bycatch of the swordfish driftnet fishery and we understood that there was a considerable threat for dolphins in the Turkish Aegean Sea coast, although dolphins are under the legal protection and no direct catch is permitted in Turkey. Therefore, special protection measures should be prepared, for example, an education program for fishermen for rescue and release live animals from the net. As banned in the Barcelona Convention, large-scale driftnets exceeding 2-5 km should be forbidden and appropriate measures should be taken by the relevant authorities.

Acknowledgement

Authors thank İstanbul University, Turkish Marine Research Foundation for the financial support, Orkun Komut and Arda Tonay for their kind help during the surveys.

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