

Biodiversity in the Black Sea Bottom Trawl Fisheries and Processing Possibilities of Discard Species

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Aim of the study: The Black Sea has unique characteristics (less diversity but more abundant school) compare with the other Turkish seas. Therefore, trawling is one of the industrial fishing methods and mainly used in the Black Sea fisheries. The aim of this study is determined biological diversity of the commercial bottom trawl for the Black sea which is one of the most isolated seas in the world.

Material and Methods: Materials were obtained from the commercial fishing operations; namely 14 trawl (cod-end mesh size varies between 40-48 mm) surveys in three stations (Ordu, Samsun, Sinop) located on the coast of the Black Sea between December 2008 and December 2011. Sampling was carried out from fishing vessel by collecting of species separated. Samples were weighed with 0.01 g precision, total lengths were measured to the nearest 0.1 cm, and shellfish and crustaceans were measured (total length, width, thickness and carapace length) with digital callipers with 0.01 mm sensitivity. Finally, the processing possibilities of discard catch were evaluated.

Results: Totally, 1095 kg (33076 units) samples were obtained and then were made sub-sampling. It was determined 20 different species caught by bottom trawl surveys. The most of them comprise of discard species (35%). This is a huge number for the bottom trawl fisheries and also Turkish Black Sea fisheries. The main species are; *Solea lascaris*, *Sprattus sprattus*, *Spicara smaris*, *Crangon crangon*, *Neogobius melanostomus*, *Alosa fallax*. In Turkey, some of them especially *Sprattus sprattus* use for fish flour and oil production. The discard species are shown differences according to country and fishing gears. Therefore, discard species can be evaluated in processing industry for fish feeding and other purposes for country needs considering Common Fishery Policy of Food, Agriculture Organization in European Commission. Some discard species can be used in fish oil production by their fat content. Especially, the livers of sharks and ray species that are caught discard can be used in the pharmaceutical industry because they are a good source of unsaturated fatty acids. Besides, some red crustaceans such as shrimp and crab can be used for carotenoid production which is important carotenoid source for aquaculture industry.

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