STOCK ASSESSMENT STUDIES OF THE TURKISH BLACK SEA COAST

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This project was carried out by the aims of stock assessment in the Black Sea where is one of the most important seas of Turkey Fisheries activities point of view, especially highly cought anchovy (*Engraulis encrasicolus*) and horse mackerel's (*Trachurus* species) stock assessment, and calculation of biomass of some important economically deep fish.

The project was supported by national and international establishments. There are, NATO's Science Programme for Stability, State Planning Organisation, Turkey Scientific and Technical Research Association and Ministry of Agriculture and Rural Affairs. This study was been proposed by the Middle East Technical University, Erdemli Marine Sciences Institute by the cooperation with Ministry of Agriculture and Rural Affairs, Trabzon Fisheries Research Institute, in 1989-1994. These two Institutes's research vessels (BİLİM and SÜRAT-1) were been used during the studies.

The project aims to assess the stock of several commercial pelagic and demersal fish species along the Turkish Black Sea coast. The achieve this goal fishery acoustics for the pelagic species and holistic and steady state models (swept area method, maximum sustainable yield-MSY and yield per recruit-Y/R) analyses for demersal stocks are applied. Additionally, fish-market samplings and studies concerning fish egg and larvae surveys are also evaluated.

Although species composition can change through all Eastern and Western Black Sea coasts of Turkey, all the time whiting (*Merlangius merlangus euxinus*) can be met in these two regions and red mullet (*Mullus barbatus ponticus*) fallow it. During 1990-1992, the ratio bony fish were increased whereas crackling fish decreased.

Total biomass that can be caught by trawl shows differences according to years. The stock of demersal fish biomass were been assessed as 10-40 thousand tons for Black Sea coast. 50 % cumulative length dissociation of red mullet have been found as 11-14 cm, whiting 10-12 cm.

During study period, average length of anchovy was decrease significantly. Average length was 9 cm 1988-1989 period, this value decrease to 7.5 cm during 1989-1990 than 1990-1992 period it reached to 8.5 cm again. Also, sudded increase in *Mnemiopsis* biomass in 1988 caused significant decreasing on feed organisms anchovy larva and juveniles.

The over wintering anchovy stocks at the Turkish coast of the Black Sea will sustain (under healthy condition) a maximum yield of about 290 0000 tons with a fishing effort of 106 384 HP. The estimated MSY figure for both *Trachurus* species is about 80 000 tons.