DETERMINATION OF HEAVY METALS IN SOME ECONOMICALLY IMPORTANT MARINE ORGANISMS IN SOUTH-WESTERN BLACK SEA

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This study; was carried out by the aim of determination of heavy metal content of fish which are caught in significant amount and having an economic importance, observation of this values change belong to space and time, comparing the taken result with upper limit values and finding out the level is dangerous or not, and find out the pollution level of Western Black Sea.

The project was conducted by Middle East Technical University, Erdemli Marine Sciences Institute with the financial support of the State Planning Office and Turkish Scientific and Technical Research Council and in collaboration with Ministry of Agriculture and Rural Affairs, Trabzon Fisheries Research Institute in 1992. This study is the continuation of the which was carried out by the same ınstitutes's studies which is about heavy metal pollution in Middle and Eastern Black Sea, in 1991.

During the project, the levels of mercury, copper and lead and their changes in time and space were studied in two pelagic fish species, anchovy (Engraulis encrasicolus) and horse mackerel (Trachurus species) and also in a demersal species, European hake (Merlangius merlangus euxinus) which were caught in significant amounts in South-western Black Sea, so all having economic importance. Furthermore, the mussel (Mytilus galloprovencialis), macroalgae and mixed plankton (phyto-zooplankton) and sediment collected from four sampling areas were also analysed for the same metals, since they were accepted to be good indicators of pollution.

When the metals concentrations were compared among the sampling areas, mercury and especially copper concentrations were found to be highest in İnebolu region and it was followed by İğneada. Lead concentrations was slightly higher in the samples from İğneada region than those collected from İnebolu region. When the metal contents of the samples were compared to each other, the sediment contained the highest metal concentrations and was followed by plankton and macroalgae. Thus, the sediment and macroalgae could be used, together with mussel in order to identify the metal pollution in an area.

On the fish species, which taken as research subject and mussel measured metal values were found lower than international limits.