## DETERMINATION OF THE LAND-BASED SOURCES OF HEAVY METAL POLLUTION IN THE MIDDLE AND EASTERN BLACK SEA COAST

## <u>Project Leader:</u> Prof. Dr. Mustafa ÜNSAL<sup>1</sup> <u>Researchers:</u> Yılmaz BEKİROĞLU<sup>2</sup>, Şengül (AKDOĞAN) BEŞİKTEPE<sup>1</sup>, Yusuf KAYIKÇI<sup>2</sup>, Ülkü ATAÇ<sup>2</sup>, Nigar ALEMDAĞ<sup>2</sup>, Muammer AKTAŞ<sup>2</sup>, Celal YILDIRIM<sup>2</sup>

<sup>1</sup> Middle East Technical University, Erdemli Marine Sciences Institute

<sup>2</sup> Ministry of Agriculture and Rural Affairs, Central Fisheries Research Institute

This study carried out by the aim of find out of the, importance of pollution, most pollute areas, and which sources caused this pollution in the Black Sea.

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During the project, the land-based sources of mercury, copper and lead were tried to be defined in the Middle and Eastern Black Sea and in addition the seasonal and spatial changes in metal concentrations of the samples were also studied. To do this, total suspended sediment, sediment, mussel and macroalgae samples were taken from 14 source and 4 reference stations in April, July, October and December.

The total suspended sediment and sediment samples were found to contain the highest mercury, copper and lead levels. When the seasonal changes were studied, the highest mercury levels were measured in Spring in total suspended sediment and in Summer and Autumn periods in other samples. The highest copper concentrations were measured in Autumn and Winter in total suspended sediment, sediment and mussel samples, as well as in Summer and Autumn in macroalgae. According to the seasons, the highest lead concentrations were found in Autumn in total suspended sediment and sediment, while the highest levels were observed in Winter in mussels and in Spring in macroalgae.

According to the stations; from Hopa and Sürmene-Yeniay Cupper Management sediments and taken sample from the points thet these sediments reach to the sea, every three metals were found in high levels. Also, in the stations around Giresun, lead and copper concentrations and in the stations around Kızılırmak-Yeşilırmak, mercury, copper and lead concentrations were found very high levels.

Mines of the region are effective on the copper and mercury pollution but mercury especially reach to the sea by the means of rivers, valleys and torrents. Also mercury reach to the sea from some industrial regions.



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