EFFECTS of SEA and FRESH WATER POLLUTION on the STOCKS and REPRODUCTION of ECONOMICALLY VALUABLE FISHES in the BLACK SEA REGION.

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Alkylphenol ethoxylate compounds are used as additive substances of detergents, paints, pesticides, plastic materials....etc. The production rate of these compounds is over 300,000 tons per year and more than 60% of this amount accumulates in waters via sewerage and industrial wastes. In water, alkylphenol compounds transform into alkylphenol derivatives. These derivatives have estrogenic effects on fishes and cause serious abnormalities in their reproductive and hormonal systems. Cadmium is also toxic for fishes and it harms their endocrine systems. Cadmium is carried to water by industrial wastes. A decrease due to water pollution is observed in the population of fishes which are unique to Black Sea region and vital to both freshwater and sea fishery.

Our ecotoxicologic researches aim to detect the pollution caused by the alkylphenol derivatives and cadmium in the streams of Black Sea region. Sediment, fish and water samples will be collected from the streams and coats of Trabzon where sewage and industrial pollution is high. The pollution level of alkylphenol will be measured at the METU Biology Department whereas that of cadmium will be measured at Trabzon Fisheries Central Research Institute. HPLC and gas chromotography will be used for the detection of alkylphenols and atomic absorbtion spectrophotometry will be used for the detection of cadmium.

Fish organs and tissues will be examined in order to detect harms of pollution on fish health and gonads. More detailed researches such as the measurements of enzyme levels, RFLP, amount of vitelline and DNA/RNA ratios in fish organs and tissues will be possible depending on the extra appropriations that might be provided.