

Priority Organic Pollutants in Two Coasts of Alexandria, Egypt

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Abstract

Waters, sediments and biota (vertebrate and invertebrate representative) samples were collected during the period from March to December 1996 from inshore and offshore areas of the Mediterranean Sea coast at Alexandria. The inshore study area included the area of Kaitbey sewage discharge and El Mex Bay where the discharge of agricultural drainage waters contaminated with industrial and sewage. For the first time the complete priority organic pollutants include (27) volatile organic compounds, VOCs, and (57) semi-VOCs as well as some (27) Pesticides /PCBs and herbicide compounds were measured in the abiotic samples. In the biotic samples only pesticides/PCBs and herbicides were measured. The obtained results reveal that the concentrations of the VOCs and semi-VOCs in the abiotic samples are extremely low or undetectable. The detectable ones in the water are far below the chronic water quality criterion standard or that of EPA's human health protection level. While those in the sediments are far below Long and Morgan's Effect Ranges. Surprisingly, some pesticide and PCBs compounds are detected in both the inshore and offshore abiotic and biotic samples. This suggests that atmospheric transport and deposition processes are most likely playing significant role for carrying pollutant compounds to much of the sea surface of the present study areas and probably to the other Mediterranean Sea surface.