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IMPACTS OF ANTHROPOGENIC ACTIVITIES IN BACAU AREA UPON HEAVY METALS CONCENTRATION ON BISTRITA RIVER SIDES

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Abstract

The main objective of the current research is to determine the content of heavy metals from the Bistrita river banks, respectively upstream of Bacau city, Romania, in Bogdan Voda area, and downstream of Bacau city. Because of their bio-accumulation tendency heavy metals can generate a negative impact on soil, as well as on certain physiological and biochemical indicators of plants and animals metabolism. The selection of sampling points (upstream and downstream of Bacau city) took into consideration the areas where the pollution sources are located and where the sediment layer is thick, having the granulosity level less than 63 μm . We found that the Maximum Allowable Concentrations (MAC) were not exceeded in the case of cadmium, chrome, lead and mercury in the soil for sampling points upstream of Bacau city, in Bogdan-Voda area. The same situation was observed in the case of arsenic in sampling points upstream and downstream of Bacau city. Exceeding values recorded in the sampling point upstream of Bacau city, in Bogdan-Voda area (for nickel and copper) and downstream of Bacau city (for cadmium, nickel, chrome, copper, zinc, lead, mercury) resulted from discharged wastewaters and improper storage of municipal waste.

Key words: Bistrita river, heavy metals, pollution, soil

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