

Restoration of the Moulili riverbed impacted by manganese mining activity, Moanda, Gabon: enrichment factor and environmental risk.

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The restoration of mining areas is a topical issue in tropical countries, as mining was often carried out without precautions being taken at the outset. The rivers near these mining sites are subject to chemical contamination and physical transformations linked to the input of materials, which can even transform the course of the river. This study focuses on an area influenced by 40 years of mining and which has undergone a physical restoration process: the Moulili River in Gabon. Metal element analyses were carried out on surface sediments and at a depth of 40 cm. The results show that enrichment changes with distance, as do the environmental impact indices, but also that these indices are not necessarily suitable for areas where the parent rock is itself rich in metallic elements. This work shows that, overall, physical restoration is not sufficient to eliminate enrichment, and that the suspended matter transported by the river shows a fractionation involving different transfer processes for the metals studied.