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DISTRIBUTION OF HEAVY METALS IN THE LAKE TALKŠA (LITHUANIA) SAPROPEL AND POSSIBILITIES OF PRACTICAL USE

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Abstract

This article presents the results of investigations addressing the accumulation of heavy metals in different layers of the Lake Talkša, Lithuania. For the sampling from the ice of intact structure of the sediment the turf borer was used. Concentrations of these heavy metals in sapropel layers were determined in the extracts of sapropel. After the preparation of samples, the concentration of Pb, Ni, Cr, Zn and Cu were measured in the laboratory by means of atomic absorption spectrometry. The results showed that sapropel taken from the northern shores of Talkša Lake is stratified according to LAND 20-2005 and should be classified as sludge of I and II category. Based on the concentration of Pb, Ni, Zn, Cu, sapropel should be classified as I category. However, according to the maximum concentrations of Cr (257.5 mg/kg) detected in the upper horizon of the sludge, sapropel should be iconsidered as of IInd category. Within other horizons, sapropel is not contaminated with heavy metals, while metal concentrations could be treated as trace elements. Sapropel recovered from this part of the lake could be exploited by excavation and widely used for various economic needs.

Key words: heavy metals, lake sediments, purification of lake, sapropel

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