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BIOGEOCHEMISTRY OF WETLANDS IN BARRAGE LACUL ROSU CATCHMENT (HAGHIMAS – EASTERN CARPATHIAN)

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Abstract

Lake Rosu is the best-known natural barrage lake in Romania. It was formed in 1837 following a landslide which blocked the course of the Bicaz River. There are no studies on the delimitation and typology of the wetlands surrounding the lake and its affluent brooks. The wetlands around Lake Rosu cover large areas because of the morphological changes induced by the landslides, lithological slopes, as well as the reduction in depth next to the river mouths. The typical lacustrine and palustrine wetlands developing in the lake's basin also extend along the lower courses of the main rivers, creating a unified structure from a hydro-morphological point of view. The delimitation and typology of the wetlands were carried out according to international standards, and taking into consideration four defining factors: hydrological, geomorphological, pedological, and biological. For the geomorphological and pedological factors, the wetlands are delimited according to the inclination and exposure of the slopes from the proper lacustrine cuvette, but also by taking into account the amount of humus and organic carbon present in the limnosoil alluvial deposit. The associated vegetation preferred humidity, and created the background of the fields with excess humidity. Compact areas of wetland preserve a high level of protection. In the same way the riparian wetlands have been preserved. Changes in the area induced by human activity are negligible, and the large areas of the slopes are covered with compact forests. For a better preservation of the wetlands and the lake's basin, the area studied was included into the Bicaz Gorges–Hasmas Mountains National Park. This is the first such study performed in Romania.

Key words: brooks, humus, natural barrage lake, organic carbon, plant associations, wetlands

Received: September, 2010; Revised final: October, 2011; Accepted: November, 2011

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