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PHOSPHORUS CONTENT IN WATER, PARTICULATE MATERIALS AND SEDIMENTS OF RIVER PRUT

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Abstract

The scheme for determination of phosphorus contents in water and particulate materials of river Prut according to World Health Organization classification was evaluated, additionally being tested for estimation of phosphorus forms in bottom sediments - orthophosphate plus condensed forms, organo-phosphorus, and total amount of phosphorus. The supplemented scheme allows the analysis of the phosphorus forms for the entirely system “water – particulate materials – bottom sediments”, and considerably extends possibilities for interpretation of phosphorus dynamics in natural waters. It was established that bottom sediments accumulate considerably higher quantities of phosphorus forms, inorganic one (orthophosphates plus poly-, pyrophosphates) and organo-phosphorus, compared with particulate materials of river Prut. Lab modeling of bottom sediments re-suspension shows that considerable phosphorus desorption from bottom sediments does occur. Results suggest that during of such phenomena bottom sediments can become a relevant source of phosphorus, being mobilized in water horizons.

Keywords: particulate materials, bottom sediments, phosphorus forms

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