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## **MONITORING OF GROUNDWATER QUALITY IN SOME VULNERABLE AREAS IN BOTOSANI COUNTY FOR NITRATES AND NITRITES BASED POLLUTANTS**

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### **Abstract**

This paper emphasizes a groundwater quality assessment using thirty-seven hydro-geological drillings, located in vulnerable and non-vulnerable areas in Botosani County as regarding nitrate and nitrites based pollutants and also phosphates and ammonium, during 2001-2008. The groundwater quality from vulnerable areas is within allowed limits. It was observed a decrease of nitrates and nitrites concentration in four locations designated as vulnerable zones regarding nitrates. In non-vulnerable areas, the groundwater quality deteriorated between 2006-2008, in terms of ammonium, nitrites and nitrates content. In some hydro-geological drillings, like Sadoveni and Stefanesti, the nitrites concentration (1.54 mg/L, 1.37 mg/L respectively) exceeded the legal accepted limit. The ammonium concentration in non-vulnerable areas also exceeded the limit of 0.5 mg/L. By token of the results of this monitoring activity the risk of groundwater pollution with nitrates was reassessed. MMDD Order 1552/743/2008 approved a new list of localities where sources of nitrates exist from agricultural activities; in Botosani County seventy-seven new localities were designated as vulnerable areas regarding nitrates pollutants.

*Key words:* groundwater, monitoring, nitrates, nitrites, pollution, vulnerable areas

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