

Matuszewska, R., Szczotko, M., Gizinski, R., Krogulska, B. Assessment of Effectiveness of Surface Water Treatment Processes in Podkarpackie Region Based on Protozoa, *Cryptosporidium* and *Giardia* sp., and Sulfite-reducing Clostridia Occurrence. *Ochrona Srodowiska* 2013, Vol. 35, No. 3, pp. 49–52.

Abstract: According to Polish Ministry of Health regulations, in case *Clostridium perfringens* spores are identified in treated water samples, *Cryptosporidium* and *Giardia* protozoan parasites detection should be part of drinking water quality supervision procedure, both for surface and mixed water intake sites. The study assessed effectiveness in removing of protozoan parasite cysts and oocysts as well as sulfite-reducing clostridia in surface water treatment processes in Podkarpackie region waterworks. Presence of *Cryptosporidium* sp. oocysts was detected in 83% of surface intake water samples but the contamination was low. The number of protozoa was a mean of 0.06 oocysts in 1 dm³. *Giardia* sp. cysts were detected in all raw water samples and their number was a mean of 0.18 cysts in 1 dm³. Spores of sulfite-reducing clostridia were also detected in all water samples (>10² cfu/100 cm³). Parasitic protozoa were not present in samples of treated (coagulation/filtration) and disinfected water. This study demonstrated that the water treatment technologies applied in Podkarpackie region waterworks constitute an effective barrier against protozoan parasites, but are not always sufficient against spores of anaerobic *Clostridium* sp. present in the raw water.

Keywords: Parasites, *Cryptosporidium* oocysts, *Giardia* cysts, surface intake, drinking water, water treatment.