

**POSSIBLE UNDERGROUND MOVEMENT OF NITROGEN COMPOUNDS IN
THE TORUŃ – EBERSWALDE PROGLACIAL STREAM VALLEY AT THE
NOTEĆ CONFLUENCE TO THE WARTA RIVER**

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As a result of studies covering ten hydrological years (1992/1993 – 2001/2002) in the section of the Warta River between Kłosowice (137 km) and Skwierzyna (92.2 km), a decrease was observed in total nitrogen and its basic forms. While looking for the causes of this rare phenomenon it was found that the average yearly concentration of total nitrogen in the waters of the Noteć River in Santok was considerably lower (1.75 mg·dm⁻³) than in the Warta River in Skwierzyna (4.25 mg·dm⁻³). The possibility of the Warta waters being diluted with the cleaner waters of the Noteć was investigated in this study. For this purpose three cross-sections were established through the area located between the Warta River in the Nowy Dwór (106 km) – Skwierzyna (92 km) section and the Noteć River [Lipki Młyn (216 km) – Trzebicz (197 km)]. Vast wetlands are found in the valleys of both rivers in this section. The cross-sections show the topographic features and thickness of the aquifer. The length of the cross-sections is 48.6 km. Ordinates of the aquifer roof at the Warta fell within the 24.5 – 29.7 m range, whereas at the Noteć they were lower (22.7 – 28.3 m above sea level). This means that the waters of the Warta are found on average by 2.5 m higher and may flow only in the direction of the Noteć. The gradients of the aquifer roof in the three cross-sections were 0.28 – 0.066 ‰. Thus, the potential hydrogeological contact of the Warta and the Noteć does not affect the decrease in the total nitrogen concentration in the waters of the Warta River in the Kłosowice – Skwierzyna section.