

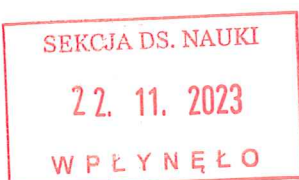
## SUMMARY

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Title: Spatial distribution of zooplankton below lake outflows as an indicator of the lake's impact on the river

The study aimed to demonstrate the spatial distribution of zooplankton below lakes as an indicator of the lake's influence on the river. The research area encompassed five rivers in northwestern Poland in voivodeship zachodniopomorskim, lubuskim, and wielkopolskim: Drawa, Korytnica, Krępa, Mierzęcka Struga, and Słopica. The study relied on zooplankton research, physicochemical parameters, and hydrological characteristics of the investigated watercourses. The assessment of the impact was based on acquired data, statistical analyses, and local conditions in the vicinity of the research area. The objective was to assess the lake's influence on shaping zooplankton structures in the outflowing river. Concerning the river continuum, the indicator of this influence was the number of taxa and the abundance of drifting zooplankton. The study yielded six main conclusions: (1) The lake's influence on the river's zooplankton structures and, consequently, the river's biodiversity ends where the abundance of drifting zooplankton, especially pelagic forms, sharply decreases, while the number of taxa, especially littoral ones, increases or stabilizes. (2) The lake's impact on the number of taxa and the abundance of rotifers persists over a longer stretch of the river than in the case of the number of taxa and the abundance of crustaceans. (3) Chemical and biological conditions of lakes influenced the zooplankton of all outflows, but only in the initial section below the outflow. In the lower, typically riverine sections, the zooplankton structure was shaped by the local hydrological and biological conditions of that river segment. (4) The less natural the river channel, the lower the taxonomic and quantitative diversity of zooplankton observed between segments of that river. In the case of a river with a more natural channel, this pattern is reversed. (5) In rivers, large stagnant water reservoirs lead to a significant increase in the number of taxa and zooplankton abundance, while small reservoirs such as backwaters, puddles, and wetland areas have a significant impact on shaping the species richness of zooplankton. (6) Dams causing impoundment do not result in changes in the number of taxa and zooplankton abundance unless backwaters, puddles, or stagnant water zones are present within their scope.

**Keywords:** zooplankton, impact, river.



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