

**Pollution Degree and Sanitary State Indicator Bacteria as the Indicators of the Purity of Lake Hańcza Waters** – Anna Gotkowska-Płachta, Ewa Korzeniewska, Stanisław Niewolak

Summary

This paper presents the results of a sanitary and bacteriological study of Lake Hańcza and its influents and an outflow. The study was conducted from April to October in the years 1998–2000, at 9 sites situated on the lake (pelagic zone, near-shore waters, ecotonal zone), 4 sites situated on the influents (the Czarna Hańcza and Stara Hańcza Rivers, the Spod Przełomki stream and the stream flowing from Lake Boczniew) and one situated on the Czarna Hańcza River, which flows out of Lake Hańcza. Total Viable Count at 20°C (TVC 20°C) and Total Viable Count at 37°C (TVC 37°C) were used as indicators of pollution, while Total Coli (TC), Faecal (thermotolerant) Coli (FC) and Faecal *Streptococcus - Enterococcus* (FS) – as indicators of the sanitary state. The indicator bacteria number in the waters of Lake Hańcza and in the outflowing waters were usually typical of clean surface waters (purity class I). The bacteria number in the water inflowing to Lake Hańcza was much higher than that measured in the water of the lake and was usually similar to the values typical of slightly polluted (purity class II) and heavily polluted waters (purity class III). Throughout the study period, higher indicator bacteria numbers were measured in summer months; in other periods a higher number was found only sporadically. Its increase in subsequent years of study in the water at the established sites may be an indication of the increasing effect of allochthonic factors on the waters of Lake Hańcza.