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EVALUATION OF SANITARY AND BACTERIOLOGICAL CONDITION OF THE “BALATON” WATER RESERVOIR LOCATED IN THE CENTER OF BYDOSZCZ

Key words: bacterioplankton, BIOLOG® method, LIVE/DEAD, water reservoirs

Summary

Water reservoirs have become increasingly an integral part of infrastructure of big cities. They play an important aesthetic and recreational functions, but aren’t covered by systematic microbiological monitoring. The aim of this study was evaluation of sanitary and bacteriological condition of the “Balaton” water reservoir located in Bydgoszcz. Sanitary analysis includes the number of selected groups of microorganisms were made in accordance with the Polish Standards recommendations. The study was expanded to determine the total number of bacteria (TNB) and assessment the activity of cytoplasmic membrane of bacterioplankton. In this case was used fluorescent dyes LIVE/DEAD® BacLight™ Bacterial Viability Kit. The studies showed, that the season has a major impact on the distribution of bacterial populations. The highest average number of psychrophilic and mesophilic bacteria and also fecal enterococci was recorded in summer. The exceptions were coliform bacteria and Escherichia coli, which the smallest average number was noted in spring. Similar relationship observed based on the total number bacteria, among which cytoplasmic membrane activity varied from 91.5% in summer to 72.3% in autumn. The taxonomic analysis of dominant bacterial strains prepared using BIOLOG® method showed, that all examinated isolates belonged to Gammaproteobacteria class.