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THE IMPACT OF LIGHT POLLUTION ON EUTROPHICATION OF THE DOBCZYCE RESERVOIR

Summary

The effect of moonlight on the vertical migration of zooplankton in reservoirs is widely known. Given the fact that phytoplankton provides food for zooplankton, we hypothesized about the possible correlation between the night sky brightness and the content of phytoplankton in the surface layers of reservoir. This hypothesis was tested for the Dobczyce Reservoir. We found the strict linear correlation between a level of chlorophyll a and brightness of the night sky, noticed in the surface layers of this reservoir. We have not noticed any other similar correlation between the level of chlorophyll a and other physical parameters of water such as temperature and oxygenation, as well as meteorological conditions such as air temperature or insolation during the daytime. We believe that brightness of the night sky, which consists of both natural factors (moonlight) as well as artificial ones (light pollution in a form of artificial airglow) is the main and crucial factor in the growth of algae in the surface layers of the Dobczyce Reservoir. We also believe that the correct lighting of the area of the water intake can significantly reduce eutrophication of such reservoirs.