

## Summer Phytoplankton of Water Bodies of the Dniester Delta (Ukraine) Summer Phytoplankton\*

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**ABSTRACT:** The main characteristics of summer phytoplankton from water bodies of the Dniester Delta (species composition, number, biomass, morphological and functional parameters), and their changes over a long-term observation period are presented. Phytoplankton samples were taken in mid-July between 2006–2019 in the Kuchurgan Reservoir, four large flooded lakes, and the Dniester and Turunchuk rivers. In total, 376 phytoplankton species were found over the 14 year period of monitoring; their complete list is given with the indication of cell volumes of the species for each water body studied. *Chlorophyta*, *Bacillariophyta*, and *Cyanobacteria* dominate the populations. It was noted that, with the influx of large volumes of water into the floodplains in 2008 and 2013, the number of *Chlorophyta*, *Dinophyta* and *Cyanobacteria* increased. Maximum values of water temperature in 2010, 2015 and 2016 caused an increase in the biomass of algae. In the Turunchuk River in 2015, as a result of the water bloom caused by *Bacillariophyta*, the maximum biomass value was recorded for the entire observation period ( $413 \text{ g}\cdot\text{m}^{-3}$ ). In recent years, there has been a tendency towards an increase of the biomass of phytoplankton. A large amount of organic matter contributes to siltation of water bodies. The maximum calculated values of the active surface of phytoplankton index (PSI) is consistent with the hydrological conditions in the Dniester Delta (temperature and water level), and with the degree of eutrophication of water bodies. The performed PSI analysis allows us to evaluate the response of autotrophs to changes in climatic conditions, and to develop a scale of environmental status classes for freshwater phytoplankton.

**KEY WORDS:** phytoplankton, species, biomass, specific surface, temperature, Dniester, Turunchuk, Ukraine

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