Tasaul Lake Primary Production

Daniela Rosioru*, Dan Vasilii*, Laura Alexandrov*, Jurg Bloesch**, Dany Steiner**

N.I.M.R.D. – National Institute for Marine Research and Development “Grigore Antipa” Blvd. Mamaia, no. 300, 900581 Constanta, Romania, tel. 40-241-540870, fax. 40-241-831274, e-mail: daniela.mircea@gmail.com

**EAWAG: Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland

Abstract

The paper presents the most important limnological parameters measured in water column of Tasaul Lake (a shallow Black Sea coastal lake), during 2006-2007: temperature, dissolved oxygen, pH, total inorganic carbon (TIC), conductibility, photosynthetically active radiation (PAR), chlorophyll a, primary production (PP), assimilation number (AN), a and β coefficients involved in P-I (productivity-light intensity) relation.

The mean values of water column, for mentioned parameters showed that Tasaul Lake is permanently and completely mixed, and a hypereutrophic lake.

Thus, dissolved oxygen (7.43-16.09 mg/l), pH (8.61-9.57), conductibility (1.44-1.85 mS/cm), TIC (61.73-107.38 mg/l), chlorophyll a (48-377.40 mg/m³), PPmax (71-935.42 mgC m⁻³h⁻¹), AN max (0.48-5.50 mg C mg⁻¹ chl a h⁻¹) indicated the trophic state of the lake.

The annual primary production was 500 to 600 g C /m³ y (Roşioru et al., 2008).

The aim of these analyses is to assess the algal blooms, to understand aquatic ecosystem processes and to take measures for reducing eutrophication.

Keywords: limnology, primary production, C-assimilation, ¹⁴C-acid bubbling method (ABM), in situ incubation, Tasaul Lake, shallow lake