The Advantages of Using Biological Methods in Assessing of Flowing Water Quality Rivers

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Abstract. The biologic analyses with more fidelity reflect the ecologic status of the rivers, comparatively with the physical-chemical analyses was demonstrated in the last years.

Key words: biologic methods, contamination, monitoring.

INTRODUCTION

The biologic methods, although having many limits, permit to determine the effect of different pollutants on the benthic communities, out of the limits of acute pollution stages.

MATERIALS AND METHODS

The biologic methods look for assessing water quality using aquatic organisms. Fundamental for all the biologic methods is the attribute of some organisms, animals and vegetals to develop in waters of different degrees of contamination.

RESULTS AND DISCUSSIONS

The initiators of using the biologic methods in assessing watercourses quality were: Kolenati (1848), Hassal (1850) and Cohn (1853) (Sharma and Moog, 1996). Beginning from that period and until now, a multitude of water quality assessment methods have been developing: Hynes, 1960; Sladecek, 1973a, 1973b; Pitwell, 1976, Hawkes, 1979; Persoone and De Paw, 1979; Illies and Schmitz, 1980; Woodiwiss, 1980; Herricks and Cairns, 1982; Mathews et all, 1982; Helawell, 1986, Descy and Micha, 1988; Newman, 1988; Metcalfe, 1989; Plafkin et all, 1989; Rosenberg and Resh, 1992; De Paw and Hawkes, 1993; Davis and Simon. 1995. Although in the past only Germany and Austria were using aquatic organisms for water quality assessment, nowadays most of the East European countries use and develop the biotic indices of biomonitoring, both for local level and regional level, or even for national level (Hungary, Romania, The Czech Republic, Slovenia). Moreover, even the Water Framework Directive (EU 60/2000) recommends the member states the elaboration of national standards for the biologic component as well as of some biotic indices that are to be adjusted to the conditions of every state. Consequently, biologic monitoring methods (indices and biotic scores) of water quality based on aquatic macroinvertebrates and fish are already in place in some EU member states. So, some of these methods are tried for the first time on the watercourses of our country (Neagu, 2005).

CONCLUSIONS

The biologic methods are based on the biologic components. These are considered the main elements in the assessment of watercourses health status.

REFERENCES