BIOTEST AS AN INTEGRATED TECHNIQUE FOR MONITORING ECOLOGICAL CHANGES IN DIFFERENT WETLAND TYPES

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Abstract

Biotest, as methodology and set of techniques, is based on the estimation of the health of the ecosystems through the assessment of the condition of living organisms, including plant, invertebrate and vertebrate species. Such an assessment involves an evaluation of the complex of morphological, genetic, physiological, biochemical, and immunological parameters characterizing developmental homeostasis in each species. Analysis of both indigenous species in situ and test-object ex situ are involved in the estimation.

This practice provides an integrated biomonitoring of the quality of the environment undergoing the whole variety of different impacts and allows exclusion of wrong conclusions which may occur in studies limited to some parameters and a few species.

Biotest techniques applicable to reveal the result of different impacts on any species and wetland type can be used as an early warning system to reveal even initial changes in the condition of separate species and ecosystem as a whole.

There are two options for the Biotest application: for wetlands of particular interest the full Biotest system seems to be needed; while for brief scanning of a large area it is possible to use the reduced, but still rather effective for general survey, system of Biotest techniques, limited to the simplest and cheap methods (based mainly on morphogenetic estimates) appropriate for wide application.

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