

THE USE OF KEYSTONE SPECIES CONCEPT IN GENERAL ECONOMY

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One of the most important concepts in the modern ecology is the concept of keystone species [1]. Humans drive complex interaction chains by affecting other keystone actors across different habitats. This requires innovative approaches that would integrate the study of human behavior with food-web theory.

The subject-matter of economics is the choice of alternative uses of scarce means. Similar situations of choice occur in nature. Consequently, biology and economics could be regarded as parts of a more comprehensive discipline: universal or general economy [2, 3].

A possible approach in general economy is studying biological and economic systems within the same models. In this case, biological systems are regarded as acting subjects [4]. Either separate populations or whole ecosystems could be considered as such acting subjects. The second option was chosen by the author in creating the model of competitive interaction in utilizing a scarce resource [5] which was adapted to modelling interaction of economic subjects and an ecosystem and tested by the way of retrospective analysis.

The concept of keystone species suggests a third variant of such modelling. Three approaches to depicting trophic relationships are possible [6]: the connectedness web, the energy flow web, and the functional web. The use of the third approach in the model of competitive interaction allows considering as counter-agents only those species who are engaged in strong, controlling interactions. As a result, we achieve a substantial simplification of the model without a loss in its accuracy.

References.

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