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Faina Berezovskaya* (fberezovskaya@howard.edu), 6 str., Washington, DC 20059. *Effect of predators in dynamics of niche construction.*

In this paper a question of “how much overconsumption a renewable resource can tolerate” is addressed using a mathematical model, where a consumer population that compete for the common resource and can also contribute to resource restoration, is subject to an attack of predators. Through bifurcation analysis we show that well-adapted predators can keep the system in a stable equilibrium even for “strong” overconsumption, so, extending domain of system sustainability. We introduce a measure of prey adaptation depending on other parameters of the model and compare dynamics of the models without- and with- predators. It was also observed that for some parameter domains a population can survive or go to extinct depending on its initial conditions. (Received September 14, 2013)