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Vlajko L Kocic* (vkocic@xula.edu). *On the dynamics of certain classes of nonlinear discrete discontinuous population models.*

We present a survey of results about the dynamics of some discrete discontinuous population models. We study oscillations, the structure of semicycles, periodicity, attractivity, and bifurcations. We focus on the classical Williamson's population model and an equivalent model

$$x_{n+1} = (a - bh(x_n - c))x_n,$$

(h - Heaviside function) which was used in modeling the spread of West Nile epidemic. In addition, we consider discontinuous Beverton-Holt type difference equation and we address the dynamics of a general nonlinear population model with two jump discontinuities exhibiting Allee-type effect. Some generalizations and several open problems are also discussed. (Received September 13, 2019)