1139-39-437　　　　　　**Elliott J. Bertrand***, Department of Mathematics, University of Rhode Island, 5 Lippitt Road, Kingston, RI 02881, and **Mustafa R.S. Kulenovic**. *Higher-Order Generalizations of the Beverton-Holt Equation.*

We investigate generalized Beverton-Holt difference equations of order k of the form

$$x_{n+1} = \frac{af(x_n, x_{n-1}, \ldots, x_{n+1-k})}{1 + f(x_n, x_{n-1}, \ldots, x_{n+1-k})}, \quad n = 0, 1, \ldots, \quad k \geq 2,$$

where f is a function nondecreasing in all arguments, the parameter a is a positive constant, and the initial conditions $x_0, x_{-1}, \ldots, x_{1-k}$ are arbitrary nonnegative numbers in the domain of f. We will discuss several examples of such equations and present some general theory. In particular, when $k = 2$, we will investigate the local and global dynamics in the event f is a certain type of linear or quadratic polynomial, and we explore the existence problem of period-two solutions. Further, we will analyze the global dynamics of the class of difference equations for which $f(x, x, \ldots, x)$ is chosen to be a concave function. (Received February 18, 2018)