

1035-92-1621 **Saber Elaydi** and **Robert J Sacker*** (rsacker@usc.edu), Mathematics Department, 3620 S. Vermont Ave., KAP 108, Los Angeles, CA 90089-2532. *Population Models with Allee Effect: A New Model.*

We discuss several Difference Equation models that exhibit the Allee effect. In a time independent environment certain models account for a non-zero repelling positive stationary state A called the Allee point, and a larger attracting stationary population level K , the carrying capacity. Populations starting out below the Allee point are driven to extinction while those starting out above are attracted to K .

For certain population models describing a periodically varying environment we explore conditions guaranteeing the existence of an “Allee” periodic state P_A and an attracting periodic state P_K . We introduce a new model that exhibits the Allee effect. (Received September 20, 2007)