1003-37-1530   **Jerry J Chen*** (`jerry.chen@case.edu`), 10900 Euclid Avenue, Yost Hall 226, Cleveland, OH 44106-7058. *Preventing extinction in discrete Lotka-Volterra equations.* Preliminary report.

A discrete Lotka-Volterra population model for a pair of competing species is analyzed in detail. It is known that the Lotka-Volterra maps demonstrate their own brands of bifurcation and horseshoes that are fundamentally two-dimensional in nature along with a strange invariant set for certain parameter intervals. With the initial values outside of the Cantor-like set, the weaker species eventually becomes extinct. A controlling scheme that manipulates the withdrawal of the dominant species is provided for the prevention of the probable extinction, and some numerical results are given to portray its effectiveness. (Received October 05, 2004)