1125-92-1316   **Rebecca Pettit*** (`rpettit@vols.utk.edu`) and **Suzanne Lenhart**. *Optimal Control in a Discrete Model for Invasive Species Integrating Surveillance and Removal.*

Managing an invasive species can involve allocating resources to surveillance of the area and removal of the detected invaders. We formulate a model discrete in time, including these two features as control actions. The area is divided into three compartments: absent (no invaders present), detected, and undetected. We use optimal control theory to aid in the decision of allocation resources to these two controls. Numerical illustrations will be presented. (Received September 16, 2016)