

Spruce Budworm Population Model

Farhana Sarower
Department of Mathematical Sciences
New Mexico State University
Las Cruces, NM 88003, USA
farhana8@nmsu.edu

Abstract

We study the model of the population growth and decline of the spruce budworm in eastern North America and Canada. The state variables are divided into fast and slow categories. Understanding the dynamics of the fast variable is the key to understand the dynamics of the two slow variables. In this talk, I will discuss the long-term behavior of both fast and slow variables. Also, we would like to investigate how noise intensities affect the dynamical behavior of the corresponding one-dimensional ODE equation and then understand the dynamical behavior of our proposed three-dimensional SDE budworm model.