***Introduction to Theoretical Ecology Assignment 3***

Logistic Population Growth with Allee Effect

Some flowering plants require a minimal density to attract pollinators. Below this threshold density, pollinators will not be able to detect the presence of flowers and thus the plants cannot complete their life cycle.

Assuming that the population growth of a flower species *ITEA* is directly related to the numbers of pollinator visits

1. Find the equilibriums of the system and use graphical method to determine their stability. (3 pts)
2. Use local stability analysis to determine the stability of the equilibriums and confirm your results in question 1. (4 pts)
3. Solve the differential equation numerically and show how different initial conditions may arrive at different equilibriums. You should provide figures of population trajectories with different initial conditions as well as the R code you used to generate the results. (3 pts)