# CSC 446 Project Proposal

**Problem Description**

Our goal is to simulate the behavior of populations of animals when choosing and using resources in their environment.

**Simulation Outline**

We will use a NSSP to simulate the arrival of animals into the area, and distribute their arrivals in different locations around the perimeter. Each arriving animal will assign each resource in the area a desirability score based on the distance from its arrival location, and the richness of the resource. A higher desirability score will mean a higher probability the animal chooses that resource location. If no resource is desirable enough, the animal will leave without using any resources.

When an animal chooses a resource location, it will use up a portion of the resource, depleting it and reducing the desirability score for future arrivals. The resource will either periodically replenish, or replenish at a constant rate.

When given any resource arrangement and population, we should be able to find a stable state of resource use.