Programme Plan

The research carried through the course of this program will be done by two groups and will aim to answer several questions. The first group will be researching the interaction between foxes and geese, and the effect on grass. The research focus of the second group will be the competition for the grass between herbivores and the geese, in an enclosed area. The main research question of the project describes the fundamental aspect in a short sentence. The main question is then further divided into two research questions, one for each group. Then to ensure a steady step by step development of the application, the two research questions will be further divided into sub-questions.

# Central research question:

What will happen to the population of deer, cattle, horses & geese if a number of foxes are released in the preserve?

# Group 1 research questions:

## Main research question:

* + How do the foxes and geese interact, and what is the resulting effect on the grass?

## Sub-research questions:

* + - At what rate does the grass in Oostvaardersplassen grow?
    - How many geese does a fox kill per day?
    - What is the population of geese in the preserve?
    - What is the population of foxes in the preserve?
    - How does the population of geese affect the rate of grass growth?
    - How will the fox’s hunt for geese affect the geese’s eating habits?

# Group 2 research questions:

## Main research question:

* + How do the herbivores and the geese compete for the grass in an enclosed area?

## Sub-research questions:

* + - What are the populations of each animal?
    - What is the rate of grass consumption of each animal?
    - How do animal populations change as a result of grass availability?

For some of these questions, we will be able to find the answer in the provided literature and/or online. Those answers will form the basis of a mathematical model, which we will use to simulate the potential outcomes.

The creation of this model will be split into 2 groups, Figure 1. Both groups will be creating a partial model which aims to answer 1 of the 2 main sub-questions. Once completed, the objective shifts to combining the two into a single functional application.

**Feeds On**

**Feeds On**

**Predator-Prey**

**Relationship**

|  |
| --- |
| **Feeds On**  FOXES  GRASS  HERBIVORES  GEESE |
| **Food Competition** |

Figure 1

The relationships and interactions, between the flora and fauna, focused on, in this research paper. The division is signifying the focus of each group. Group 1 focusing on the food competition, between herbivores and geese, while group 2 focuses on the predator-prey relationship.