

Environmental lab

[Literature](#), [Russian Literature](#)



Identifying Environmental Hazards Identifying Environmental Hazards

Purpose To identify the impact of invasive species to the ecosystems, especially Zebra and Quagga

Introduction

Invasive species have posed a threat to the ecosystem in several ways. In some instances, they outcompete indigenous species for space and nutrients and at the same time they can spread diseases. Zebra and Quagga have demonstrated that they severely compete for phytoplankton with other organisms in the ecosystem, which result in alteration of the food web. The far reaching impact of these invasive species can lead to extinction in the long run. Further, the only alternative way to solving this, is by getting rid of invasive species or sourcing their predators from their former ecosystems.

Hypothesis/Predicted Outcome

Zebra and Quagga contribute to the reduction of population of all other species in the freshwater lake.

Methods

In order to collect relevant data for analysis, I accessed the MUSE lab where I studied the introduction of the Zebra and Quagga to North America's fresh water lake by a ship. Through the observation of the animations in the lab, I was able to establish a trend of increase in Zebra and Quagga and decrease of other organisms' population. This is achievable by clicking on the duration bar at the bottom and then reading changes in quantity of other ecosystem occupiers, and then I recorded.

Results/Outcome

Years

Zebra and Quagga Mussel (density/m²)

Phytoplankton (µg/ml)

Zooplankton (µg/ml)

Cladophora Biomass (g/m²)

Foraging Fish (kilotons)

Lake Trout (kilotons)

0

100

2

2

10

150

15

3

1000

2.5

1

100

100

10

7

2500

2

0.5

200

80

8

10

7500

1.5

0.25

600

50

5

13

15000

1

0.1

700

25

2.5

15

750

1.5

0.2

243

40

4

20

5000

1. 75

0. 4

136

60

6

Discussion/Analysis

From the above results, it is seen that at 3, 7 and 10 the population of the Zebra and Quagga have been increasing since their introduction to a new ecosystem. It is because their main source of food is in abundant. The increase population overstretches Phytoplankton and this contributed to the decline in the population of Zebra and Quagga in the subsequent years. The implication is a common trend of the entire organism below the food chain decreasing. And, this indicates that there is instability in the ecosystem, as a result, of intruders, Zebra and Quagga.