

# Are Exotic Plant Invaders All That Bad?

## Teacher Resource

### Required Prior Knowledge:

Ecology

Population

Community

Ecosystem

Biotic Factor

Abiotic Factors

Habitat

### Key Terms:

Exotic Species

Native Species

Invasive Species

Biological Fitness

Competitive Exclusion

Limiting Factor

Quadrat

Density dependent limiting factor

Wetland

Resource

### Introduction:

Prior to the Video: Introduce project using key terms to explain the importance of the project as a whole as well as the Miller Woods location

Video Segment #1 - The Problem with Exotic Species

Introduces relevant species and ecological relationships

After the Video: Review/Measure prior knowledge of vocabulary and ecological relationships:

Reinforce species introduced to group

### Activity:

Video Segment #2 - The Research Project: Exotics verses Natives

Demonstration and explanation of methods

Review data and make conclusions:

Students are given real data from the study to interpret

Students are required to make an analysis of the data and draw conclusions as a team in relation to the ecological relationships discussed earlier. Teams must work together to interpret the data and agree on the analysis. Analysis questions along with a summation are turned in by the team.

### Follow Up:

Student Lead Discussion:

Teams reveal to the class their findings and discuss how they came to those conclusions. The teacher's role is to facilitate discussion without critique of results at this point. Only fellow students may critique as fellow scientists would.

Video Segment #3:

The results of the project are revealed with an explanation and a lead into what will be the next step in the scientific process.

Teacher Lead Discussion:

The teacher now answers questions about misconceptions and leads discussion toward and understanding of the ecological relationships.

Enrichment:

Students design a 10 minute video for a park management team with their suggestion as to what should be done about the invasive species discussed in the project based on the results of this study. (Rubric)

Remediation:

Students design a 10 minute video for the Park Kids program describing the method used in this study so that they could take part in data collection too. Teams are to use the vocabulary list provided by pointing out what aspects of the study fit the definition of each term and explain why the project is important in understanding the ecological relationship discussed in the study. (Rubric)

Follow Up Quiz: Write a post lab explaining the results of the experiment. Describe the relationships found between the environmental variables and the conditions of the plants. Did the exotic plants have a negative impact on the environment? What is the next step in this study? (Rubric)