

## **Title**

Effects of land use policy on future habitat type area and fragmentation in Wallingford and the Quinnipiac watershed

## **Overview**

Forest and field habitats are becoming increasingly fragmented in southern Connecticut. The loss of habitat and the fragmentation of remaining habitat present challenges for resident and migratory species. Students use the New England Landscape Futures Explorer Tool to examine the predicted changes in habitat type area and fragmentation under different policy scenarios. They then use their results to argue for policy approaches at the school, town, and state levels.

## **Objectives**

Increase understanding of  
    structure and use of ecological models  
    predicting future ecosystems using scenario modeling  
    data analysis and visualization  
    application of ecological principles for policy generation

## **Length of Lesson**

One double period (140 minutes) and two homework assignments. However, the students were familiar with basic modeling, IPCC scenarios, and data visualization using Tableau before this lesson.

## **Grade Level**

This could be used by 9<sup>th</sup> through 12<sup>th</sup> grade students.

## **Standards**

Choate is a private school so we do not directly examine how our assignments match with state or national standards.

## **Materials, Handouts and Presentations (Include links when applicable)**

None

## **Activities**

Homework for night before: <https://www.newenglandlandscapes.org/story/>

In class: guided activity

Homework for night following activity: complete PowerPoint

### **Student Resources**

<https://www.newenglandlandscapes.org/story/>

Class handout

### **Teacher Resources**

Class handout

Excel file

Tableau File

Example of student graphs

Example of student images

### **Extensions and Modifications**

Would like to tie this in with ArcGIS Online StoryMaps so that the students can present other information and interactive maps.

### **Assessment**

Student PowerPoint – can be assessed as a standalone piece or as a presentation

### **Reflection**

The students enjoyed using the tool and the relevance of the activity. Another class day would be beneficial for the actual assignment as well as a third day for presentations.