

NELF Explorer Lesson Plan: **Watershed Fragmentation and Policy**

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Overview

Students use NELF Explorer scenario maps to assess fragmentation of forests and field habitats in their local area and, based on the patterns they identify, propose policy solutions at various scales that may reduce fragmentation and/or support the well-being of resident and migratory species.

Because this lesson plans deals with fragmentation of forests, this lesson plan is works best in an area that still has forest cover is not completely urbanized.

Student Level

The module is suitable for 9th through 12th grade students depending on student familiarity with concepts including scenarios and connectivity, as well as ability to use graphing software such as Excel or Tableau. Note that this lesson plan was designed for students at a private school who may be introduced to technologies not commonly used in public schools.

Learning Outcomes

At the end of this lesson, students should be able to:

- Interpret and compare land cover maps based on spatial models
- Understand and articulate the utility of scenario-based models and thinking
- Understand connections between human activities, land cover patterns, and ecosystem services
- Use data and evidence to support potential solutions at multiple scales

Length

Approximately 1-2 class periods and two homework assignments.

Standards

This lesson plan was developed for students at a private school, therefore lessons are not designed or assessed for alignment with state or national standards.

Based on the learning objectives, this lesson plan may meet the following AP Environmental Science standards and/or practices: 5.10 Impacts of Urbanization, 2.C Explain how environmental concepts and processes represented visually relate to broader environmental issues, 5.C Explain patterns and trends in data to draw conclusions, 7.D Use data and evidence to support a potential solution.

Materials

Students will need a ChromeBook, laptop, or computer lab to use NELF Explorer. Students will also need some kind of graphing software such as Tableau, Microsoft Excel, or Google Sheets.

Where to Access

The [lesson plan](#) and [student worksheet](#) is available on the Harvard Forest [Schoolyard Ecology website](#). Example student [graphs](#) and [images](#) are available to show how this exercise worked in a part of southern Connecticut.