

Lesson 15

CHANGING THE LAND

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Overview

Students compare historical aerial photographs with current aerial photographs and determine what factors influenced land use decisions; evaluate the impacts of different land uses on an area; and the affect of future changes in land use on a community.

<http://dnr.wi.gov/org/caer/ce/ee/teacher/landuse.htm>

Objectives:

Students will be able to:

1. Compare historical aerial photographs with current aerial photographs and determine what factors influenced land use decisions.
2. Evaluate the impacts of different land uses on an area;
3. Consider future changes in land use and the affect on a community.

Background

Communities make land use decisions every day. Take a look at areas surrounding large cities, in redeveloping downtown areas of older cities, and in the countryside and you'll see land use changes. Given the impact that humans have already had and continue to have on the land, a major challenge facing communities, both urban and rural, is how to plan for continued growth. What are the best ways to accommodate growth and minimize the negative impact on the existing community and the natural environment?

Changes in communities can be easily seen by comparing historical aerial photographs to current ones. To make this activity most relevant to your students, try to use photos of your community. Aerial photos can be purchased from most Regional Planning Commission offices. Most locations have photos going back to the 1960s or 1970s. Another source of aerial photos is your county Conservation District office.

Procedure

1. Divide the class into teams of 3-4 students. Place the plastic sheets over the older aerial photographs. Identify the different land uses on these photos using different colored markers to show each land use. Look for waterways, forests, agriculture, residential areas, industry, parks, and transportation corridors.

2. Place the same plastic sheet over the most recent aerial photo. Identify the changes that have occurred in land use. Students should answer the following questions:

a) What were the major changes in land use? What developments occurred? Use markers to show the changes.

b) What types of land use were lost? Forests? Agriculture? Why do you think these changes were made?

c) What changes occurred in the roadways or railways? Why?

Duration:

50-minute class period

Materials

Aerial photographs (one historical and one current for each team of 3-4 students); plastic sheets the same size as the photos; Washable markers in various colors

Subject

Science
Social Studies
Language Arts

d) Was there any commercial development? Parking lots?

e) What are the effects, both positive and negative that have occurred because of these changes. Are there effects on water quality? Wildlife habitat? Quality of life?

3. Ask each team to identify new areas for community development. Assume your community will require 50 additional single family homes, five apartment buildings, and five new businesses in the next year. (If you're doing this for a large urban area, you may want to increase the number of required new homes, apartments and businesses to better reflect reality or you may want to single out and plan for a certain area of the city.) Have students mark where this development should occur. Discuss why teams targeted certain areas for development. Will transportation systems need to change? List the impacts of these developments on your community.

4. Suggest ways to reduce the impact of the land use changes on wildlife habitat, water quality, and quality of life.

Assessment

Data forms are completed. Student can draw conclusions.

Michigan Content Standards Addressed

Social Studies

Strand II. *Geographic Perspective*

Standard II.2 Human/Environment Interaction

- All students will describe, compare, and explain the locations and characteristics of ecosystems, resources, human adaptation, environmental impact, and the interrelationships among them.

Standard V.2 Inquiry

- Construct an answer to the question posed and support it with evidence.

Language Arts

Standard 3. Meaning and Communication

All students will focus on meaning and communicating as they listen, speak, view, read, and write in personal, social occupational, and civic contexts

Science

Strand III.5 Life Sciences ~ *Ecosystems* All students will analyze how humans and the environment interact.

Standard III.5.6MS Describe ways in which humans alter the environment.

Standard III.5.1 HS Describe common ecological relationships between and among species and their environments.

Standard III.5.4 HS Describe responses of an ecosystem to events that cause it to change.

Standard III.5.6 HS Explain the effects of agriculture and urban development on selected ecosystems.