

## Lesson 12

# Plant Concerns

What is an endangered plant species in Connecticut?  
Why is it endangered?  
What can be done to protect it?

**GOAL** To understand that the loss of plants results in a threat to the biodiversity of the watershed

### OBJECTIVES

Students will:

- ✓ identify a threatened or endangered plant in Connecticut
- ✓ use web site to conduct research on plant species
- ✓ conduct presentation on plant
- ✓ create plant mural
- ✓ conduct mini-biodiversity study

### MATERIALS

poster board or butcher block paper, paper, pencils, clipboards, plant field guides, markers or colored pencils, string, flag markers for five groups, measuring tape

#### CORE CURRICULUM CONTENT STANDARDS

- Language Arts 2(1,2,4)
- Science 1(1,2,6), 5(1-3), 6(4), 8(3,6)
- Social Studies 9(1-3), 10(1,3,4), 11(1), 12(5)
- Arts 1(2), 4(1,2) 6(3)

**VOCABULARY** threatened, endangered, extirpated, biodiversity, quadrant

### PROCEDURES

1. Begin lesson by asking students to define terms, “threatened”, “endangered,” and “special concern” in reference to plants.
2. Explain that there are endangered plants as well as endangered wildlife. Some plants in Connecticut are extirpated. (*no longer exist; destroyed*) Discuss meaning.
3. Break up class into five smaller groups. Have students identify plants that are endangered, etc. Instruct students to find [www.dep.state.ct.us/cgnhs/species](http://www.dep.state.ct.us/cgnhs/species), click on plants and scroll down to preview plant species.
4. Have students conduct research on the following plants:
  - a. basil mountain mint (*Pycnanthemum clinopodioides*), virginia copperleaf (*Acalypha virginica*), slender mountain rice (*Oryzopsis pungens*), sedge (*Carex bushii*) and purple giant hyssop (*Agastache soropnulariifolia*).

5. Have students answer the following questions. List on board.
  - a. Is this plant species endangered, threatened or of special concern?
  - b. What type of habitat requirements does it need?
  - c. How can you identify plant? What are some of its characteristics?
  - d. Why is it endangered, threatened or of special concern?
  - e. Find species in the Farmington River Watershed?
6. Have students draw their plant and present findings to class. Have them combine plants pictures and create a mural for the class.
7. After presentations are completed, have groups go outside and conduct a mini-biodiversity study. Explain that they will select random sites and measure ten by ten feet quadrats or areas.
8. Have students use measuring tape, flag markers (or sticks) and string to establish quadrats.
9. After measuring ten by ten feet areas, have students place four flag markers in corners. Attach and tie string to flags and connect to all four to establish boundaries.
10. Have students conduct studies by the stream (floodplain), in the forest or in the schoolyard. Have them identify and count the plants and species within the quadrant.
11. After they complete the project, have students tally data and determine level of biodiversity in area.

## **EXTENSIONS**

1. Have students find [www.frwa.org](http://www.frwa.org). Have students click on programs and then biodiversity study. Have students read about Farmington River Watershed Association's Farmington Valley Biodiversity Project.
2. A rare plant species was found in an area that is being developed. Have students determine what can be done (if anything) to protect the plant within the confines of the law.

## **GLOSSARY**

**biodiversity** - the number and variety of organisms found within a specified geographic region

**endangered** - to be threatened with extinction

**extirpated** - eradicated; root out; destroyed; exterminated; annihilated; extinguished

**quadrant** - one of the four parts into which a plane is divided by the coordinate axes; the upper right-hand part is the first quadrant, the upper left-hand part the second; the lower left-hand the third, and the lower right-hand part the fourth quadrant

**threatened** - to express a threat against