

Instructional Scenario

Soil Conservation



Course/Duty Area: Introduction to Natural Resources & Ecology Systems/Managing Soil Resources

Scenario:

You have just inherited your grandfather's 100-acre beef cattle operation, which includes 45 cow-calf pairs and 3 bulls. The farm has a 60-acre pasture in the front and a 40-acre pasture in the back. On a hillside between the pastures is a feedlot with a stream running alongside it. The animals have free range on the two pastures and come to the feedlot when they are on hay and supplements. You can see that the pastures are weedy and degraded. Soil is eroding off the hillside where the feed troughs are located.

Big Question:

What can you do to retain your soil, improve productivity, and promote healthier plant growth in the pastures?

Focused Questions:

- How can rotational grazing help? How can you divide the pastures to allow animals to be moved and the grass to recover?
- What parameters can you use to determine the frequency of animal moves?
- What governmental organizations can help you develop a plan?
- How can the manure deposited in the feedlot be relocated to pastures that need the organic matter and nutrients? What records will need to be kept?
- How can you prevent soil and manure from washing into the stream?

Student Project or Outcome:

- Create a pasture layout that protects soil and water.
- Develop a grazing management plan to prevent erosion and pasture degradation.

Teacher Resources:

- [Designing a Flexible and Efficient Rotational Grazing System](#), Virginia Cooperative Extension
- [Web Soil Survey](#), Natural Resources Conservation Service, U.S. Department of Agriculture
- [Virginia's Soil and Water Conservation Districts](#), Virginia Department of Conservation and Recreation

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