

Instructional Scenario

Land Parcel Management Plan and Natural Resource Management



Course/Duty Area: Agriscience & Technology/Exploring Natural Resources

Scenario:

Mr. Johnson, a landowner in the community, has hired Adrienne to help improve the management plan for his 250-acre parcel, of which 120 acres are mixed hardwoods and 60 acres are a 15-year-old pine planting. The remaining acreage is in hedgerows and fields. A small stream separates the hardwood and pine planting and runs past part of the row-cropped fields. Mr. Johnson is willing to give up some of the row-cropped acreage to create wildlife plots, but he would still like to have some harvestable crops in production. When Adrienne asked about his management goals, Mr. Johnson provided the following list:

1. Long-term timber harvest potential
2. Improving the habitat for quail, deer, and turkeys
3. A planting for a dove shoot in the fall that will also be attractive to bees and songbirds
4. Improved access to the stream
5. Reduced soil erosion along the stream

Mr. Johnson also told Adrienne that if there are additional measures that can be taken to increase sustainability to benefit or improve soil health, water quality, and plant diversity while creating a profitable and productive operation and make the land more resilient to drought, fire, and other natural disturbances, she is encouraged to make more suggestions. He wants to ensure this place is in excellent condition and incorporates management practices to protect wildlife habitat.

Big Question:

How can Adrienne accomplish the landowner's requested improvements while protecting or improving the existing and newly established natural resources (i.e., soil, water, timber plantings)?

Focused Questions:

- How can erosion near the crop fields along the stream be reduced?
- What are the common mast-producing trees in the area that will attract and hold wildlife?
- How are hardwood and pine stands managed differently?
- What attracts wildlife? How does providing food, water, shelter, space, and arrangement assist with wildlife conservation and habitat management?

Student Project or Outcome:

Students will work in groups to create a detailed management plan for Mr. Johnson. Different topics may be assigned to separate groups, but the final plan should be cohesive and address potential conflicts between management strategies.

Project-Based Assessment:

1. Students could create their own custom food plot blend to address the needs of the management plan.

2. Students could hatch quail or pheasant eggs in the classroom and explore the specific needs of game birds and game bird management.
3. Students could visit an on-campus or nearby woodlot to discuss timber stand improvement (TSI).

Teacher Resources:

- [Common Native Trees of Virginia: Identification Guide](#)
- [Virginia Department of Forestry Tree Identification Resources](#)
- [FFA Forestry Career Development Event](#)

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