

2018 Connecticut Envirothon Oral Scenario

The North American Envirothon Current Issue topic is *Western Rangeland Management: Balancing Diverse Views*. Controversies regarding publicly owned western rangeland are of national concern. There are multiple uses of rangelands, including grazing, recreation, hunting, and mining. Several endangered species, including the greater sage grouse, exist only within western rangelands. Although western rangelands do not occur in Connecticut, the Connecticut Envirothon Current Issue topic has been tailored to address similar concerns regarding working lands and wildlife conservation in Connecticut.

The Issue

Habitat loss is the number one threat to wildlife today. Loss of grasslands in Connecticut, the United States and around the world has resulted in severe declines of many grassland-dependent species. Nationwide, these habitats are being lost to development, invasive species and conversion to cropland, but also to the suppression of the natural disturbances that created or maintained them. Additionally, in the western United States, both overgrazing and lack of grazing have impacted grassland habitat.

Today, Connecticut has less grassland than before the settlers arrived. Natural factors that created grasslands are no longer allowed to occur. For example, wildfires are put out because of public safety, and beaver activity is curtailed when flooding poses a risk to property. Many of the grasslands that exist in Connecticut today are hayfields. Hayfields make great habitat for bobolink, a native grassland ground-nesting bird. But hayfields are most often cut before the nestlings have a chance to leave the nest. The U.S. bobolink population has declined by 65% since 1966. The 2016 State of North America's Birds lists the bobolink as one of the species that is at risk of extinction without significant conservation actions to reverse declines and reduce threats.

The University of Connecticut's Horsebarn Hill is used to raise dairy cattle and to provide agricultural education. Grazing and mowing keep this land in a grassland state. Bobolink are attracted to this grassland and make their nests on the ground. In order to provide quality food for the cows, fields are usually mowed for feed hay before the nestlings are able to leave the nest.

Background

The University of Connecticut began as a Land Grant agricultural school in 1881 and continues to provide agricultural education. UConn's College of Agriculture maintains dairy cows, beef cattle, horses, sheep, chickens and pigs. Farm property includes Horsebarn Hill which is managed to provide pasture, haylage, and dry hay to feed the animals. While Horsebarn Hill is approximately 100 acres, it is not quite enough land to provide feed year-round and some feed must be purchased. The milk produced by UConn's dairy cows is made into ice cream and cheese, and the excess milk is sold to the Agri-Mark Dairy Cooperative. Cows raised on Horsebarn Hill produce manure, which is spread on the fields after they have been cut. Current storage capacity of manure produced on the farm is one month.

Large grasslands are attractive to a variety of grassland birds. For example, grasshopper sparrows and upland sandpipers require grasslands of 100 acres or more. Other species such as bobolink and eastern meadowlark are attracted to grasslands of this size but require a minimum of 10 or 20 acres, respectively. Bobolink can be found in both flat grasslands and in hilly grasslands. If a hill is present, these birds will nest near the top and on the slope, but not at the bottom. At Horsebarn Hill, cattle are put out to pasture in May and are grazed in one paddock before moving on to the next. The cool-season grass is ready to be cut for haylage by June 1st. By June 1st there are bobolink nests on the ground. If the grass is cut where the bobolink are nesting, they cannot reproduce.

As a large open space, Horsebarn Hill is also used by people for recreation. Trails bring hikers along the top of Horsebarn Hill, and group events – yoga, eclipse watching, etc. – have occurred on the hill. Hikers walking off the trail, and dogs off leash drive bobolink away from the nests. Dogs off leash can kill the chicks and sometimes the adults who are trying to defend the nests.

Other grasslands that contain bobolink populations in Connecticut include Topsmead State Forest in Litchfield and Pomfret Audubon in Pomfret. The grasslands at Topsmead State Forest contain the largest bobolink population in the state. A local farmer leases these fields and uses them for hay.

Your Assignment

Prepare a plan for Horsebarn Hill that (1) provides for the needs of the farm operation and still (2) allows bobolink chicks enough time to fledge (leave the nest) and (3) provides for recreation in a manner that is low impact to the farm and to grassland birds. Your plan should represent a balance between the cost and benefits to the farm operation and the conservation of bobolink habitat.

You will present your plan to the Horsebarn Hill Stakeholder Committee which represents (1) the UConn farm manager who runs the farm, (2) a member of a local birding group whose members want to see the bobolink have a chance to reproduce, and (3) the Dean of the College of Agriculture, Health and Natural Resources who wants to provide recreational opportunities for the community while protecting soil and water quality of the pastures. Your plan should describe management practices to be implemented that provide for the needs of the farm operation while allowing bobolink to nest successfully.

Understanding how different farming practices can affect bobolink populations is important. Be prepared to consider the following: How do farming operations at Topsmead differ from those at Horsebarn Hill? How do the needs of this farmer differ from the needs of the farm at Horsebarn Hill? How do ownership and goals differ between Horsebarn Hill, Topsmead State Forest and Pomfret Audubon?

❖ Maps and further information are on ctenvirothon.org

Please be sure to address the following in your presentation:

1. Bobolink

- a. What is the range (geographic distribution) of the bobolink?
- b. Describe the habitat needs of bobolink. Is there a minimum patch size for bobolink habitat?
- c. Give a description of the kinds of threats and pressures (limiting factors) that have put bobolink at risk.
- d. What other species breed in bobolink habitat?
- e. Describe management practices that support grassland ground-nesting birds like bobolink.
- f. Although grazing and hay production create habitat for bobolink and other grassland birds, how do these practices impact bobolink and other ground-nesting birds and other wildlife.

2. Horsebarn Hill (refer to Dr. Jack Clausen's PowerPoint online)

- a. Describe the current goals and objectives of the management of Horsebarn Hill.
- b. Describe the natural resources, including current habitat conditions, of Horsebarn Hill.
- c. Give an assessment of the suitability of the property for management of bobolinks.
- d. Identify the site on Horsebarn Hill where bobolink choose to nest and explain why they choose this site.
- e. Identify how manure application affects water quality.
- f. Identify how management of pastures and hay fields affect water quality.
- g. Identify how management of pastures and hay fields affect soil health.
- h. Identify other uses of Horsebarn Hill and how they impact bobolink.
- i. What would happen to Horsebarn Hill if it was no longer being farmed?

3. Proposed actions.

- a. Describe management practices that would improve conditions for bobolink.
- b. What are the tradeoffs that would be made by the farmer in order to improve conditions for bobolink?
- c. Evaluate the likelihood of the success of your proposal.
- d. How can recreational users be encouraged to use Horsebarn Hill in a manner that protects the resources including bobolink habitat?
- e. Identify organizations that provide information and assistance to agricultural landowners to implement conservation practices on their land.

4. What other species will benefit from the proposed management? Which of these species are of Greatest Conservation Need (see CT DEEP Wildlife Division website)? What is the biggest threat to these species?

5. What can ordinary citizens do to help protect species of local concern such as the boboblink as well as federally endangered species such as the greater sage grouse?